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AUTHOR Hubbell, Ruth
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ABSTRACT

This review attempts to summarize the major findings concerning the impact of Head Start that have been reported in the literature published since 1970, and to communicate these results to policymakers, researchers, Head Start program staff, and others. The review constitutes an update of "A Review of Head Start Research since 1969 and an Annotated Bibliography" assembled by the George Washington University in 1975. The review is restricted to the time period 1970-1983 intentionally, so that it would focus on Head Start as it operated under the aegis of the performance standards and program improvements made in the early 1970's. Findings related to the impact of Head Start are reported as follows: (1) cognitive development of children, (2) emotional and social development of children, (3) health of children, (4) families of participating children; and (5) the community. (AS)

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A REVIEW OF HEAD START RESEARCH SINCE 1970

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HEAD START EVALUATION, SYNTHESIS
AND UTILIZATION PROJECT

Contract No. 105-81-C-026

September 15, 1983

A REVIEW OF HEAD START RESEARCH SINCE 1970

Prepared for:

Mr. Dennis Deloria
Project Officer
Office of Program Development
Administration for Children, Youth and Families
Office of Human Development Services
Department of Health and Human Services
Washington, D.C.

Author:
Ruth Hubbell, Ph.D.

Project Director:
Sherrie S. Aitken, D.P.A.

Research Librarian:
Geraldine Jones, M.L.S.

CSR, Incorporated
Washington, D.C.

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PREFACE

Hundreds of articles, papers and books on Head Start programs have been produced since the project's inception in 1965. This literature review was written to inform policymakers, researchers, Head Start program staff, and others about the major findings included in this body of research. The review constitutes an update of A Review of Head Start Research Since 1969 and an Annotated Bibliography assembled by The George Washington University in 1975. The overall results of that earlier review are supported by the updated review presented in this document. This work was performed by CSR, Incorporated under the Head Start Evaluation, Synthesis and Utilization Project (Contract No. 105-81-C-026).

The review of the literature was restricted to the time period 1970 to the present. This was purposely done so that it would focus on Head Start as it operates currently under the aegis of the performance standards and program improvements made in the early 1970's. The review summarizes the findings related to the impact of Head Start on:

1. The cognitive development of children;
2. The emotional and social development of children;
3. The health of children;
4. The families of participating children; and
5. The community.

This review was developed from the Head Start collection and bibliography assembled by CSR, Incorporated for this project. The complete bibliography, available in a separate volume, lists over 1,400 documents related to Head Start. In selecting documents for that bibliography, priority for inclusion was given to works that:

1. Present qualitative or quantitative data about Head Start or any of its experimental programs;
2. Reanalyze Head Start data;
3. Review and synthesize Head Start findings;
4. Criticize or defend Head Start findings;
5. Describe specific Head Start programs and processes.

Occasionally, "editorial-" or "policy-" type works were included when they addressed fundamental issues of interest to researchers. Works not included in the bibliography are preschool advocacy articles, newspaper-type summaries of studies, training manuals, and studies about preschool programs outside of Head Start (unless Head Start is included along with the non-Head Start preschool).

CSR, Incorporated is grateful to the many Head Start grantee and delegate agency staff who helped us to identify many of the locally conducted and unpublished studies. We also express our appreciation to the staff of the Administration for Children, Youth and Families, particularly to Dr. Raymond Collins and Mr. Dennis Deloria, who provided us with insightful direction as well as support and encouragement of our independent judgment. We extend our appreciation to other key contractor staff including Ms. Adele Harrell, Ms. Harriet Ganson, Dr. Gerald Williams, Ms. Fran Oscar, Ms. Margo Ross, Mr. Doug Parrish, and Dr. Stephen Schneider, who made significant contributions to several critical phases of this project.

Sherrie S. Aitken, D.P.A.
Project Director

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INTRODUCTION

The launching of Head Start in 1965 initiated a unique effort to provide low-income children with a comprehensive developmental intervention program involving their parents and the community.[1] The program was designed to focus not only on cognitive development but on the whole child--his or her social, emotional, and physical well-being. Goals were established to serve parents and to involve them in the program. Control of the programs was placed at the community level to enhance responsiveness to local community needs.[2]

This report addresses five major questions about the impact of Head Start:

1. What impact does Head Start have on the cognitive development of children?

2. What impact does Head Start have on the emotional and social development of children?

3. What impact does Head Start have on child health?

4. What impact does Head Start have on the families of participating children?

5. What impact does Head Start have on the community?

Research on the impacts of Head Start began with the implementation of the program and generally centered around the question "Does it work?" As Head Start has evolved over the years so has the research on its impacts. Interest in social, emotional, physical and parental impacts has grown, and although cognitive impact studies still predominate, the body of Head Start research has become more differentiated, asking, "If it works, for how long does it work and what works best for whom?"

The development of Head Start has been described as falling into four periods.[3] The start-up period, 1965-1968, featured quickly devised and diverse six- to eight-week summer programs which served 561,000 children.

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[1]Richmond, J., Stipek, D. & Zigler, E. A decade of Head Start. In E. Zigler & J. Valentine (Eds.), Project Head Start: A Legacy of the War on Poverty. New York: Free Press, 1979. (ED183266, #1447)

[2]Harmon, C. & Hanley, E. Administrative aspects of the Head Start program. In Zigler and Valentine, op. cit.

[3]Collins, R. Children and society: child development and public policy. Unpublished doctoral dissertation, Princeton University, 1981. (HS200020, #314)

The transition years (1969-1972) witnessed the conversion from summer to year-round programs. Head Start moved from the Office of Economic Opportunity to the Office of Child Development (in the then-named Department of Health, Education and Welfare). The Head Start Planned Variation program, which encouraged the use of different curricula, was instituted and programs began to be refined and solidified to meet the unique needs of their communities. The years 1972-1977 have been described as the period of improvement and innovation. Performance standards were introduced, program options and experimental programs were started, and the Child Development Associate (CDA) program for training and certifying staff was developed. During the years 1978-1982, the program was expanded starting with an appropriation increment in FY 1978 of $150 million federal dollars. During this period, Head Start has been one of the few federal initiatives to be included in President Reagan's "safety net" of social programs for low-income families.

Studies Included in this Review

Because Head Start has changed so much since the 1960's, officials of the Administration for Children, Youth and Families (which presently is responsible for administering the program within the Department of Health and Human Services) recommended that this review of the Head Start research literature be limited to studies in which data were collected after 1970. Thus, the report focuses on Head Start as it operates currently under the aegis of the performance standards and program improvements made in the early 1970s.

A predecessor of this report was published in 1977 and included studies from 1969 through 1976. That report by the Social Research Group of The George Washington University reviewed 59 studies of the effects of Head Start on children, families and communities. Since then the body of literature has grown considerably, and this review includes 124 studies.[4] The review is

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[4]Studies are counted according to the discrete identification of samples of children or families, using the following criteria:

1. A study of one group of children (both experimentals and controls) = 1 study
2. A study of the same children over time even with numerous reports, e.g., the series by the Educational Testing Service = 1 study
3. Studies of different cohorts of children over several years by the same author, e.g., Philadelphia School District = multiple studies
4. Studies of (apparently) different children by the same author across time, e.g., Stephens and Stephens and Delys = multiple studies
5. Studies of the same sample by different authors, e.g., Olson and Horner, or reanalyses of data, e.g., Cline and Abt Associates = 1 study

The same study is often cited in several sections of this review so the total of studies in all sections will equal more than 124, the actual number of studies reviewed.

limited strictly to research on Head Start (not other early childhood intervention programs). It excludes studies of experimental or demonstration Head Start programs unless the study includes comparison data on the standard Head Start programs. Generally, this review excludes studies of Home Start, the Child and Family Resource Program, Parent Child Centers, Parent Child Development Centers, Summer Head Start, Basic Education Skills programs, Project Developmental Continuity, Child and Family Mental Health programs, Follow Through (except when Head Start samples are identified), and Health Start.

This review focuses on studies which report impact data on the regular Head Start program. In some cases, descriptive studies were reviewed to provide background information or to describe program services. Studies which explore developmental questions or which use Head Start children as convenient samples for the study of test correlations, child development, etc., are not included. In a few cases, references are made to studies which used pre-1970 data because so little post-1970 research was available on the topic (e.g., the effects of Head Start on communities). Finally, since few longitudinal studies are available, several are included which follow children who originally participated in Head Start in the 1960's.

Source of Studies

The studies included in this review were obtained through a data bank developed for the Head Start Evaluation, Synthesis and Utilization Project by CSR, Incorporated. Initially assembled by the Social Research Group in 1975, this data bank has been expanded by searches of computerized information retrieval systems, a mail survey of Head Start operators, and personal contacts with government personnel and researchers active in the program. Manual searches of the card catalog of the Library of Congress and several federal department libraries were conducted. Retrospective searches of such works as the Education Index were completed. The database assembled includes over 1,400 documents and covers 18 computerized databases (see Appendix for listing). The system includes titles and abstracts for all documents identified.

The studies reviewed for this report were selected from the data bank assembled by CSR. Each study was reviewed to determine whether it met the selection criteria described above. Those that did were reviewed to identify major study findings. Findings are described as significant when authors reported them at the $p < .05$ level of significance.[5] Results which do not reach this level of significance are generally reported here as "no difference."

Given the state-of-the-art of the kind of research reviewed herein, most of the available studies are characterized by some methodological problems. For example, many of the pre- to posttest studies do not include control

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[5]This statistical term means that these results would not occur by chance more than five times out of 100.

groups and some do not control for maturation of the child during the enrollment period; others, particularly many of the dissertations, use very small samples. Where control groups exist, they are often selected because of convenience and considered to "match" the Head Start children because they are from similar neighborhoods. Campbell and Erlebacher[6] have discussed the hazards of such procedures and the danger that attempting such matches can bring; e.g., it can make effective programs look harmful and ineffective ones seem beneficial. Those authors also caution against the use of gain score comparisons between experimental and control groups as the groups may be developing at different rates.

Such scores also are more unstable than the scores from which they are calculated. Nevertheless, comparison of gain scores is a favored technique among Head Start researchers.

The author of this review recognizes and acknowledges the weaknesses of the research in advance of integrating the major findings of these studies. This problem is endemic to many literature reviews of the type presented herein. However, the author has made every effort to balance the review by including all studies which meet the selection criteria described earlier. No effort has been made to exclude studies because the findings support any particular viewpoint. As a result there will be times when it is difficult, if not impossible, to draw clear conclusions about particular impact questions. Another drawback to reviews such as this is the difficulty in evaluating the results of studies with different sample sizes. Studies with large samples are more likely to show significant differences, while small studies may reveal large differences or gains in test scores which fail to reach significance because of small sample size.[7] We have tried to consider this phenomenon when drawing conclusions about the particular questions this review addresses. It is hoped that the effort to make the presentation comprehensive will provide valuable insight to decisions about new directions in research as well as decisions about which program activities are most likely to result in identifiable Head Start impacts.

Structure of the Report

Seven major sections follow this introduction. The first summarizes the findings related to Head Start impacts on children, families and communities. The next five sections deal with specific impact areas including cognitive development, emotional and social development, physical development, families, and communities. The seventh is a brief conclusion. In introducing each impact section the Head Start performance standards are reviewed to describe

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[6]Campbell, D. & Erlebacher, A. How regression artifacts in quasi-experimental evaluations can mistakenly make compensatory education look harmful. In J. Hellmuth (Ed.), Disadvantaged Child (Vol. 3). New York: Brunner/Mazel, 1970. (ED044470, #633)

[7]Glass, Gene, Barry McGaw, and Mary Lee Smith. Meta-Analysis in Social Research. Beverly Hills: Sage Pubications. 1981.

the Head Start goals and standards against which progress in the related impact area is measured. This review provides the reader with an understanding of the intended goals of the program and may clarify some common misconceptions about the program; e.g., some people view Head Start as a pre-kindergarten readiness program rather than the comprehensive child- and family-oriented program it is intended to be.

Within each impact area, studies are grouped by subcategories of development. The opportunity to develop subcategories within an impact area is often influenced by the structure of the data reported in the available literature. Where possible, the analyses go beyond simple main effects questions (e.g., does it work?) to questions concerning the interaction of programs with child and family characteristics (e.g., what works best for whom?). The review focuses on the effects of Head Start on total child development, and especially the development of life skills for children and their families. Thus, when possible, information is presented to describe how children and parents perform in the real world rather than on tests and scales. Evidence about how children perform in school--passing, failing, dropping out, graduating--is presented. Indications of change in parents' socioeconomic status and dependence--on or off welfare, getting or losing jobs--and changes in educational status--getting a GED, attending college--are also reviewed.

In each section the number and types of studies reviewed are described. Some of the studies reviewed are government-funded evaluations; many others are studies by individual researchers, dissertations by graduate students and evaluations by school system personnel. This review clearly demonstrates that Head Start is a program that stimulates investigation by a wide range of professionals--sociologists, psychologists, educators, physicians, dentists, nutritionists, home economists--in diverse settings.

This review constitutes an attempt to capture the major findings contained in the body of literature on Head Start impacts conducted since 1970. Other products resulting from this project will include five independent reviews of the literature--each addressing one of the impact areas discussed herein. These subsequent reviews will constitute in-depth quantitative analyses of specific Head Start impacts studied between 1965 and the present.

SUMMARY OF FINDINGS AND REFERENCES

WHAT IS THE IMPACT OF HEAD START ON CHILDREN, FAMILIES AND COMMUNITIES?

A. What is the Impact of Head Start on the Cognitive Development of Children?

- Does Head Start have positive short-term effects on cognitive development?

  ...Yes — Almost all studies show significant gains over the operating year for children in Head Start on intelligence measures. Children in Head Start almost always perform significantly better on these tests than non-Head Start children of a similar socioeconomic status. (pp. 18-20)

- Does Head Start bring children up to normative performance levels on cognitive measures?

  ...No — Head Start children improve but with few exceptions, still remain below national middle class test norms for their ages. (pp. 18, 24, 25, 29)

- Does the stability of test scores differ between Head Starters and their peers under different testing conditions?

  ...Yes — Head Start children have more stable test scores than non-Head Start children when tested under different conditions. (pp. 19-20)

- Do different curricula have different effects on the cognitive development of Head Start children?

  ...Probably not — No single Head Start curriculum appears to be superior to other curricula on cognitive measures. (pp. 20-23)

- Does the socioeconomic mix and racial program emphasis of a Head Start program affect cognitive development?

  ...Unclear — The two available studies are not consistent. One shows positive effects with a socioeconomic mix. The other shows no clear pattern. (p. 23)

- Do Head Start children maintain their gains in the cognitive area into the early elementary school years (intermediate period)?

  ...Sometimes — Children who have attended Head Start sometimes maintain their superiority over their disadvantaged peers into elementary school, though some studies show no differences between the groups. (pp.24-27)

- Do Head Start children maintain achievement test differences into later school years?

  ...Sometimes — The studies split about equally with slightly less than half showing Head Starters maintaining superiority and the others showing no difference between the groups. (pp. 27-30)

- Do Head Start children perform better than their peers on other measures of school achievement and social competence in the later school years?

  ...Usually — Four studies indicate Head Start graduates perform better on such measures as teacher ratings, retention in grade, and assignment to special education. Two studies find they perform no differently from controls, even more advantaged ones. One study found them to perform worse on only one measure. (pp. 27-30)

- Many researchers have introduced experimental, usually time-limited, cognitive skill training programs into regular Head Start classrooms. Do these special programs improve the children's cognitive abilities?

  ...Yes — Experimental interventions almost always produce significant positive short-term effects. (pp. 31-33)

- Does special training enhance the perceptual abilities of children in Head Start?

  ...Yes — Head Start children who received behavioral or concrete special training in perception scored higher than those who did not. Children who attended Head Start displayed more reflective cognitive styles than children who did not attend. (pp. 33-34)

- Is the language development of Head Start children improved by the program?

  ...Usually — Head Start appears to improve the language development of preschool children, though they perform below middle-class controls. Experimental interventions usually produce positive effects on language, especially for bilingual children. (pp. 34-36)

- Does Head Start improve the cognitive performance of handicapped children?

  ...Yes and No — Head Start appears to enhance cognitive abilities of some types of handicapped children but not others. Experimental tutoring within Head Start has produced large gains for children with low achievement levels. (pp. 37-38)

Cognitive References

Seventy studies or series of studies were identified which investigated the effects of Head Start on the cognitive abilities of children. These studies examined Head Start children, and data were collected in 1970 or later. Several of the longitudinal studies reviewed began in the 1960's and extended into the 1970's.

The largest number of studies reviewed (35) were unpublished papers written by university researchers, research institutions or government contractors. Seventeen of the studies reviewed were published in journals, books or monographs; ten were dissertations; one was a government report, and seven had been published by school systems. Of all of these, only six studies or series of studies were major, government-funded evaluations. The others were smaller studies of individual Head Start programs or a small sample of programs.

The names of the authors and the dates of publication for the studies reviewed follow. The complete citations are included in the annotated bibliography which follows this narrative report.

Abt Associates,
1978, ED152422, #4
1976, ED148489, #21
1977, ED148490, #22
Applied Management Sciences
1978A, ED168239, #70
1978B, ED177803, #74
Arnoult, 1973, HS200028, #86
Bee, 1981, HS200845, #129
Beissel, 1972, HS200498, #130
Borden et al., 1975, EJ118524, #180
Brown, 1978, HS 200808, #207
Bryson, 1970, ED062043, #214
California University,
1970, ED042513, #236
1970, ED057886, #237
Cawley et al., 1970, HS200067, #258
Chicago University, 1973, ED128426, #280
Clark, 1979, HS200641, #293
Cline et al., 1980, ED206380, #301
Cohen, 1971, ED067160, #304
Conone, 1979, HS200854, #321
Consortium for Longitudinal Studies,
1978, ED175577, #324
Dwyer et al., 1972, ED061273, #425
Educational Testing Service,
1968, HS100539, #439,
1975, ED124310, #485,
1976A, ED138339, #486,
1976B, ED138340, #487
Far West Laboratory, 1972, ED175552, #512
Geller et al., 1975, ED119843, #550
Goodstein et al., 1975, ED108749, #565
Hartford Public Schools,
1973, ED086365, #606
1974, ED105972, #607
Hawaii University, 1971, ED059793, #611
HEW, Region III, 1977, HS200476, #645
High/Scope,
1974, ED134318, #668
1979, ED192903, #683
Highberger and Brooks, 1973, HS200811, #707
Hulan, 1972, HS200180, #735
Hunt and Kirk, 1974, HS200507, #739
Huron Institute,
1973, ED157918, #748
1974, ED093497, #756
Hutinger and Bruce, 1970, ED047793, #764
Informatics, 1983, HS770.1, #770.1
Johnson, 1971, HS200198, #782
Jones et al., 1975, ED122926, #786
Jones and Miller, 1979, ED171415, #785
Juarez and Associates, 1982, HS200783, #799
Kanawha County Board of Education, 1978, HS800.2, #800.2
Kirk and Hunt, 1975, HS200213, #835

Kirk, Hunt and Lieberman, 1975, HS200212, #836
Larson,
1969, ED039030, #876
1972, ED066227, #877
Lawhon, 1972, HS200232, #880
Matthias, 1972, HS200255, #922
McGee, 1972, HS200256, #936
Miller and Dyer,
1972, ED069411, #988
1975, ES138519, #989
Monroe and McDonald, 1981, HS200519, #996
Mundy, 1973, HS200272, #1007
Nash and Seitz, 1975, ED119805, #1014
O'Piela, 1976, HS200297, #1087
Philadelphia School District,
1976, ED132174, #1115,
1977, ED152399, #1117,
1978, ED164573, #1122,
1981, HS200532, #1133
Pinkelton, 1976, HS200313, #1139
Reese and Morrow, 1971, ED067147, #1165
Rice, 1972, HS20032, #1176
Robinson, 1972, HS200339, #1187
Rocha, 1974, ED096012, #1188
Ross, 1972, HS200343, #1197
Seitz and Abelson et al., 1975, HS200358, #1223
Shure and Spivak, 1973, ED076230, #1232
Sklerov, 1974, HS200769, #1238
Smith, 1972, ED063023, #1244
Sprigle, 1972, ED066221, #1258
Temple University, 1973, ED086315, #1313
Von Isser and Kirk, 1977, HS200693, #1377
Vukelich, 1974, HS200389, #1379
Walls and Rude, 1972, ED073847, #1384
Willis et al., 1972, ED063024, #1411
Wooden, 1976, HS200416, #1425
Young, 1974, HS200419, #1435

B. What is the Impact of Head Start on the Emotional and Social Development of Children?

- Does Head Start have a positive impact on self-esteem?

  ...Unclear — Self-esteem appears to be at ceiling levels in preschool and the effects of Head Start are difficult to measure and, therefore, little studied. (pp. 41, 47-48)

- Does self-esteem relate to achievement in Head Start children?

  ...No — Self-esteem does not correlate reliably with current achievement and does not predict later school achievement. (pp. 41-42)

- Does the duration or curriculum of the Head Start program affect curiosity or exploratory behavior?

  ...Maybe — There is some evidence that a less didactic, more supportive program enhances curiosity, and a full-day program increases children's motivation to interact effectively with their environments. (pp. 42-43)

- Do Head Start children perform better on task or test orientation measures than their peers?

  ...Perhaps — Head Start children score higher on some measures than controls, but not on other measures. Further, task orientation has been found to correlate with cognitive test scores in Head Start children. (pp. 43-44)

- Do experimental interventions increase achievement motivation?

  ...No — Two efforts to increase achievement motivation produced no positive effects. (p. 44)

- Does Head Start affect children's locus of control?

  ...No — Studies to date find Head Start children lower than middle-class children on measures of locus of control and Head Start has not been found to increase scores of these measures significantly. (p. 44)

- Does Head Start have positive effects on children's social development?

  ...Yes and No — Head Start children are usually rated as performing as well as the general elementary school population in terms of social development. However, they have been found to be more aggressive and more attention seeking, while at the same time more sociable and assertive than their peers. (pp. 45-47)

- Do experimental Head Start curricula affect social skill development?

  ...Possibly — Some studies show positive effects on social development after participation in a program with an experimental curriculum. (p. 46)

- Does socioeconomic mix affect social interaction among Head Start children?

  ...Yes — As the socioeconomic mix approaches equality, children interact more with teachers and less with each other. (pp. 46-47)

- Do Head Start effects on social or emotional development last into the school years?

  ...Yes and No — Self-esteem declines once the child enters school, but children from some types of Head Start curricula maintain superiority on social participation through the second grade. (pp. 47-48)

- Does Head Start enhance the social or emotional development of handicapped children?

  ...Yes and No — Most handicapped children are socially integrated into Head Start programs. Head Start enhances self-help and social skills for some types of handicapped children, but not for others. (p. 48)

Social-Emotional Development References

Thirty-one studies were located in the social-emotional area; four of these were reviews rather than original research. The largest number of studies reviewed (14) were produced as university, contractor or individual unpublished research reports. Eight were journal articles or books and seven were dissertations; two were published by the government. Five of the studies reviewed were major national evaluations. None of the studies were produced by school systems.

The authors and dates of publication of the studies follow:

Abt Associates,
1978A, ED152422, #4
1978B, ED152423, #5
Applied Management Sciences,
1978A, ED168239, #70
1978B, Ed177803, #74
Benson and Kuipers, 1974, ED097121, #136
Brown, 1978, HS200808, #207
Datta, 1972, ED077569, #411
Dodge, 1974, HS200102, #411
Educational Testing Service,
1975, ED124310, #485
1976, ED138340, #487
Feeney, 1972, HS200119, #520
Hawaii University, 1971, ED059793, #621
Hertz, 1977, ED142323, #638
HEW, Region III, 1977, HS200476, #645
High/Scope, 1974, ED134318, #668
Jones et al., 1975, ED122926, #786
Juarez and Associates, 1982, HS200783, #799

Mann, 1977, ED132805, #915
Miller and Dyer, 1975, EJ138519, #989
Nash and Seitz, 1975, ED119805, #1014
Noland, 1972, HS200284, #1034
Pinkelton, 1976, HS200313, #1139
Quay, 1971, HS200322, #1153
Reese and Morrow, 1971, ED067147, #1165
Rentfrow et al., 1975, HS200328, #1167
Rose, 1975, HS200342, #1193
Ross, 1972, HS200343, #1197
Seitz, 1972, HS200357, #1222
Shure and Spivak, 1973, ED076230, #1232
Spencer and Horowitz, 1973, HS200814, #1255
Stephens, 1973, ED116777, #1276
Stephens and Delys, 1973, HS200376, #1277
Temple University, 1971, HS200837, #1312
Washington, 1974, HS200393, #1387
Zigler, 1973, HS200677, #1446

C. What is the Impact of Head Start on the Health of Children?

- Are Head Start centers providing health services to children as required?

  ...Yes, but — Programs provide a range of health services to a population badly in need of them. Head Start programs provide health screening, immunizations, and needed treatment for most, but not all children. About 90 percent of the Head Start children are immunized. (pp. 50-52)

- Are Head Start children healthier as a result of these services?

  ...Yes — Few studies are available, but those that are generally find Head Start children improve in hemoglobin levels, motor control and physical development. (pp. 52-53)

- Are Head Start children healthier as a result of nutritional services?

  ...Yes — Head Start children are more likely to be of normal height and weight than comparison children. They also have fewer school absences and perform better on physical tests. (p. 53)

- How successful are Head Start curricula in providing health information?

  ...Unclear — A major Head Start health curriculum evaluation did not provide conclusive information on this question. (p. 54)

- Do Head Start children need dental services?

  ...Yes — Head Start children generally have teeth in poor condition, though those in fluoridated water areas fare better. (p. 54)

- Does Head Start provide these services?

  ...Yes, but — High percentages of children receive dental screening and treatment though migrant children receive fewer of these services than other Head Starters. When Head Start provides transportation, children are more likely to obtain dental treatment. (pp. 51, 52, 54)

- Is Head Start serving handicapped children well?

  ...Yes and No — Eleven percent of the children in most Head Start programs are handicapped. The majority of these children have mild or moderate handicaps. Head Start programs have not fully

complied with requirements to develop individualized plans for these children. Some questions exist about how actively Head Start programs recruit for handicapped children. (pp. 54-56)

Health References

Twenty-one studies contained in 22 documents reporting on the health of children in Head Start were reviewed for this report. Of these, eleven were university research or government contracted reports, eight were journal articles, and two were government reports. [A dissertation (Olson) was the same study contained in one journal article (Horner)]. The authors and dates of publication follow:

Applied Management Sciences, 1978B ED177803, #74
Barton, 1975, HS200034, #117
Boone, Young and Associates, 1976, ED134309, #173
Cook, 1976, HS200778, #329
Educational Testing Service, 1971, ED084040, #449
Gietzen and Vermeersch, 1980, HS200699, #554
Hambidge, 1976, HS200146, #597
Hawaii University, 1971, ED059793, #621
HEW, Region III, 1977, HS200476, #645
High/Scope, 1974, ED107380, #664
Horner et al., 1977, HS200173, #726
Huron Institute, 1973, ED113011, #748
Informatics, 1983, HS770.1, #770.1
Mason, 1973, HS200591, #920
Maxima, 1983, HS922.1, #922.1
Murphy et al., 1974, HS200273, #1010
Olson, 1974, HS200296, #1086
Pugnier and Igens, 1974, HS200320, #1151
Reyes Associates, 1980, HS200809, #1173
Ross, 1972, HS200343, #1197
Seham, 1970, HS200347, #1220
Urban Institute, 1973, ED086325, #1362

D. What is the Impact of Head Start on Families?

- Do opportunities for parental involvement in Head Start exist?

  ...Yes — Head Start programs provide a range of possible roles and activities for parents. (pp. 57-59)

- Do parents participate in the Head Start programs?

  ...Yes, but — Sizable proportions of parents participate in the various opportunities but a core of parents provide the majority of hours of volunteer time in the classroom. (pp. 57-59)

- Do programs provide mandated social services and home visits?

  ...Yes, but — These services are provided directly or by referral. Home visits are conducted but not as frequently as mandated. (p. 58)

- Are parents satisfied with Head Start?

  ...Yes — All studies indicate high levels of parental satisfaction. (p. 59)

- Does Head Start provide personal benefits to parents?

  ...Yes — Parents in several studies reported increased feelings of control over their lives, general life satisfaction and increased self-confidence. These feelings generally increased as involvement increased. (pp. 59-60)

- Does Head Start improve the education or economic status of parents?

  ...Maybe — Several studies provide anecdotal evidence of such changes based on self-reports of parents. No controlled studies have been conducted on the topic. (pp. 61-62)

- Do parental education programs produce changes in parental knowledge or child-rearing practices?

  ...Unclear — This question has not been carefully studied in the regular Head Start program. Experimental parent education programs added to Head Start yield mixed results. Some are effective, others are not. (pp. 60-61)

- Does parental involvement in Head Start relate to higher achievement in their children?

  ...Yes, but — Most studies find positive relationships between parental involvement and child achievement, but it is unclear whether

this is due to parental characteristics that relate to involvement and child achievement or if it is, indeed, the result of Head Start involvement. (pp. 62-63)

- Can Head Start programs increase parental involvement?

...Yes — A variety of successful strategies have been developed to increase parent involvement. (p. 63)

Family References

Thirty documents reporting on family impacts were reviewed for this report. Of these documents, twelve are contractor or university unpublished reports, nine are dissertations, seven are government reports, and two are journal articles.

The authors and dates of publication follow:

Abt Associates, 1978, ED152422, #4
Adams, 1976, ED186511, #40
Applied Management Sciences, 1978, ED177803, #74
Bissell, 1971, ED052845, #152
Comptroller General, 1975, ED113037, #318
Datta, 1973, HS200094, #363
Dittman, 1972, ED085098, #408
Grotberg, 1980, ED196514, #588
Hertz, 1977, ED142323, #638
HEW, Region III, 1977A, HS200577, #644
HEW, Region III, 1977B, HS200476, #645
Johnson and Peevers, 1979, ED175534, #784
Juarez and Associates, 1982, HS200783, #799
Kinard, 1975, HS200211, #833
Kirschner Associates, 1978, ED164100, #846
Lamb-Parker, 1983, HS868.1, #868.1
Maxima, 1983, HS922.1, #922.1
Midco Educational Associates, 1972 ED080215, #974
Monroe and McDonald, 1981, HS200519, #996
Morris, 1974, HS200271, #1004
O'Keefe, 1978, ED161525, #1083
Payne, 1971, HS200305, #1102
Phillips, 1974, HS200311, #1136
Silverman, 1976, HS200366, #1235
Smith, 1980, HS200852, #1241
Stubbs, 1980, HS200480, #1286
Urban Institute, 1973, ED086325, #1362
Wayson, 1974, HS200397, #1393
Weld, 1973, HS200401, #1399
Williams, 1975, HS200405, #1409
Wohlford, 1974, HS200411, #1421

E. What is the Impact of Head Start on Communities?

- Does Head Start have an economic impact on communities?

  ...Yes — It provides jobs and services in communities at a level similar to a "small business." (p. 65)

- Does Head Start assist in the coordination of community social services?

  ...Yes — Head Start programs assist families in linking up with social services. Whether it increases their utilization is unclear. In some cases, Head Start programs will advocate for families dealing with these agencies; other times they hesitate to "rock the boat." (pp. 65-67)

- Has Head Start had a positive effect on public schools?

  ...Probably — Head Start programs frequently use public school buildings and other resources and apparently produce a "trickle-up" effect in increasing parental involvement in elementary schools. (pp. 67-68)

- Does Head Start create greater parental involvement in the community?

  ...Unclear — Results are mixed on this issue. There is some evidence that Head Start increases parental involvement in the community, but one large study indicates that Head Start parents were highly involved in their communities prior to their children entering the program. (p. 68)

Community References

Only 12 studies were located that examine the impact of Head Start on communities. Of these, seven were contractor or research reports, three were dissertations, two were government reports. One of these was a review of earlier research and program information.

The authors and dates of publication follow:

Abt Associates, 1978, ED152422, #4
Administration for Children, Youth and Families, 1980, HS200858, #43
Economic and Youth Opportunities Agency of Los Angeles, 1971 ED061999, #431
HEW, Region III, 1977 HS200476, #645
High/Scope, 1976, ED134314, #674
Kirschner Associates, 1970, ED045195, #838
Lewis, 1971, HS 200243, #898
Maxima, 1983, HS922.1, #922.1
Midco Educational Associates, 1972 ED080215, #974
Miller, 1978, HS200844, #982
Stubbs, 1980, HS200480, #1286
Torczyner, 1974, HS200385, #1343

WHAT IS THE IMPACT OF HEAD START ON COGNITIVE DEVELOPMENT?

The development of intellectual skills is a central goal of Head Start. The performance standards require the educational services component of the program to aim to develop these abilities by encouraging children to solve problems, explore and question, and learn by doing. The program should promote language understanding, recognition of numbers and letters, and understanding of concepts. It should help children to organize their experiences and should allow for child- as well as teacher-initiated activities.

Early research on the cognitive impact of Head Start focused on children's performance on tests of general intelligence. These studies often asked simply if Head Start produced gains or if Head Start children were superior to non-Head Start students on IQ measures. In the 1970's, cognitive research became more differentiated. Studies examined long-term effects, curriculum effects and the impacts of experimental, time-limited interventions. Researchers continued to use the popular IQ tests but also examined performance on achievement tests and tests of individual cognitive abilities. This section reviews the studies of the effects of Head Start on cognitive development beginning with studies on short-term effects (over the program year). The effects of different curricula on cognitive performance are then explored. The longevity of Head Start effects is examined in the next section. These studies are grouped by the length of the follow-up period: the intermediate effects section examines progress through second grade; the long-term effects section follows the students through high school.

A number of investigators have added experimental interventions onto regular Head Start programming in order to teach general or specific cognitive skills. These studies are reviewed in a separate section. Finally, reviews of the effects of Head Start on perceptual development, language development, and the cognitive abilities of handicapped children are presented.

Findings on the differential effects of program duration, age of entry into Head Start, and number of years in Head Start are incorporated into the various sections described above where such evidence was provided by the researcher.

Short-term Impacts on Cognitive Development

Do Head Start children improve their intellectual skills during their exposure to the program? Generally, the answer to this question is yes, significant gains are found over the operating year in a number of studies.

In 1974, the Hartford Public Schools evaluated the effects of its Head Start program using the Peabody Picture Vocabulary Test (PPVT), a measure of general verbal intelligence. The test was administered to 248 children before and after their participation in Head Start. The children gained an average of 13 months in mental age over the eight-month period but remained eight months below norms (Hartford Public Schools, 1974).

Smith (1972) examined the impact of Head Start on 175 children in Pontiac, Michigan. Children in all eight schools studied showed significant gains over a six-month period on the Preschool Inventory (PSI).

Most of the studies discussed in depth in the longitudinal part of this section also examined gains or differences between Head Start and control groups during the Head Start year. These authors (Miller and Dyer, 1975; Nash and Seitz, 1975; ETS, 1975) report significant gains or significant Head Start/control differences during this year.

In the Planned Variation study of different Head Start curricula (described more fully in a subsequent section), 3,222 Head Start children were compared to 139 controls over the program year. Seventy-three percent of the Head Starters attended programs with specially planned curricula, the rest were in regular Head Start programs. At year end, both groups of Head Start children performed significantly better than controls on the PSI and on four subtests of the Wide Range Achievement Test. Performance of the Head Start and the control groups was comparable on the PPVT (Huron Institute, 1974).

A large evaluation of Head Start programs in 29 sites was conducted by the HEW Inspector General's Office in a Service Delivery Assessment (1977). In this report, investigators who interviewed a nonrandom sample of 467 Head Start parents noted that

> nearly all parents expressed great satisfaction with what their children had learned and suggested their expectations were far exceeded. The only dissenting views occurred at a few program sites (four) with weak intellectual skills development. At those sites a notable minority of parents told us their children had not learned to recognize their written names, count or identify colors; all things they anticipated from Head Start (p. 8).

The investigators also interviewed 91 kindergarten or first grade teachers and administrators and found them to be "particularly impressed with the social competency . . . exhibited by children with Head Start experience" (p. 8).

In contrast, Alexander and Stoyle (Temple University, 1973) found that though the 68 Head Start children they studied gained an average of nine IQ points over the school year, this gain was not significant. Within the total IQ score, however, significant gains were found on the subscores for visual perception and comprehension. Children who scored lowest at the beginning gained the most.

Several authors have explored factors which can affect Head Start children's performance on tests and, thus, can affect indications of program impact. Some of the variables can be controlled by the program or testing procedure; others are child or family characteristics.

Seitz and Abelson et al. (1975) compared a group of Head Start children who had been in the program for five months to non-Head Start children tested twice on the PPVT. Head Starters scored significantly higher. Further, Head Start children performed comparably whether the test was conducted in their homes or in the center. Non-Head Start children performed worse when tested at home. The authors attributed the difference to the unusualness of the testing situation in the home and to the mother's anxiety conveyed to the child in the home setting. A significant test/retest gain was also seen in both groups.

Clearly, Head Start children gain in general intellectual ability over the operating year and these gains are usually significant. Head Start children also perform significantly better than control groups, but do not reach normative scores for their ages. Head Starters' test scores appear more stable under different testing conditions than do the scores of non-Head Start children.

Impacts of Different Curricula

The 1970's witnessed a wave of research interest in the differential effects of various curricula on children's cognitive development. The Planned Variation effort and evaluation sponsored by the (then) Office of Child Development was a major stimulus for this work, but individual program staff and evaluators also began asking, "Does one program work better than another?"

The answer to this question is "probably not." While some individual studies have found curriculum differences related to outcomes, the major studies show few, if any, differences among models and between specific curricula and regular Head Start programs. When short-term effects are found they generally conform to program goals. That is, the more academically oriented the program, the larger the IQ and achievement test gains. However, in the long run, differences usually disappear.

The Planned Variation program was introduced into Head Start in 1969. Designed to add specific program curricula to existing Head Start programs, it also included a large evaluation component. Eleven program models were available and ranged on a continuum defined by "the extent to which the acquisition of academic skills is stressed through formal, highly structured activities" (Huron Institute, 1974, p. 9). Children in 29 Head Start locations were tested. The programs included the 11 curricula and control (non-Planned Variation) classrooms. Three sites also had control groups which attended no preschool (Huron Institute, 1974).

The 1970-71 study concluded that the Head Start experience substantially improved performance on five cognitive outcome measures. There were no differences in effects between the Planned Variation programs and the non-Planned Variation programs and no model stood out as being more or less effective than others (Huron Institute, 1973). The 1971-72 study by the same research group found that on the Preschool Inventory and three subtests of the Wide Range Achievement Test both the Planned Variation and non-Planned Variation children did "substantially better than the (no preschool) control children" (p. 290).

On the Peabody Picture Vocabulary Test the performance of the Head Start and no preschool children was comparable. Growth rates for Head Start children on six tests "increased substantially," while the growth rate for controls was near zero (Huron Institute, 1974).

There were no clear differences between the 28 Planned Variation and the 12 non-Planned Variation sites on any test. The author concludes, "Relative to the condition of no preschool program, the effects of Head Start programs are quite homogeneous, with no systematic differences between sponsored and non-sponsored program" (p. 292).

The author found little conclusive evidence to indicate that specific curricula prove effective in promoting particular skills. He suggested that the Oregon Engelmann-Becker and Kansas Behavior Analysis models "appear to be overall particularly effective in imparting specific academic skills (p. 294), while the Arizona Early Education and the Pittsburgh Individually Prescribed Instruction approaches "may be overall particularly effective in imparting specific academic skills" (p. 295).

The first two models are academically oriented and use behavior modification techniques. The Pittsburgh model is described as individualized instruction and appears less academic. The Arizona model focuses on total child development and on learning skills rather than specific content.

A well-designed study that directly compared 214 children in four Head Start curricula to a 34-child control group was conducted by Miller and Dyer in Louisville in 1968-1969. (It is included here because it is also a longitudinal study that followed the children through the seventh grade.) In contrast to the Planned Variation study, Miller and Dyer (1975) did find significant differences among the four curricula they studied. After the Head Start year, children who had attended the Bereiter-Engelmann and DARCEE programs (the two most academically oriented models) scored higher on the Stanford-Binet Intelligence Test than children in the other models. All program children scored significantly higher than the control children who attended no preschool. In the seventh grade, these children were again tested and those who had attended the Montessori Head Start program scored higher on several subtests of the Stanford Achievement Battery and the WISC-R; however, the differences were not significant (Jones and Miller, 1979).

Other studies evaluating experimental curricula added on to regular programs generally found positive effects, just as studies of regular Head Start programs have.

Willis et al. (1972) found significant differences on the Apell readiness test between Head Start classes which participated in the "CEMREL Language and Thinking: New Directions" program compared to regular Head Start classes, with four-year-olds gaining more than five-year-olds.

Mundy (1973) examined the effects of a Bereiter-Engelmann academically structured preschool program on five-year-old Head Start students in Lee

County, Alabama. The 20-minute-per-day, six-month treatment yielded significant gains on the Illinois Test of Psycholinguistic Abilities (ITPA) and the alphabet and numbers subtests of the Metropolitan Readiness Test (MRT). Children initially scoring high on the MRT numbers subtest made greater gains than the subjects initially scoring low.

A study by Karlson and Stodolsky (Chicago University, 1973) compared a group of Head Start children to a group of middle-class children, both of whom participated in a Montessori nursery school program. The investigators were searching for ways the two groups of children used the curriculum differently. While there were differences in activities related to the age of the child, the initial IQ of the child (regardless of social class) was found to relate to the types of activities he or she chose (i.e., the higher the IQ the more time the child spent on reading and math activities).

Cline et al. (1980) conducted a secondary analysis of the Abt Associates study of Head Start graduates and their peers. They examined differences in the curriculum emphasis among the centers studied as reported by study directors. The researchers found centers serving mainly black families reporting that they emphasized academic skills more than centers serving predominately white families. However, these differences in curriculum emphasis did not produce any difference in the performance of children in kindergarten. The only apparent effect was a positive relationship between the length of time children attended centers with an academic emphasis and higher scores on only one of eight achievement scores (naming letters).

Miller (Far West Laboratory, 1972) evaluated the effectiveness of the Far West Laboratory's Responsive Head Start program in 12 districts. Four hundred and eight children were tested on the Preschool Inventory and increased significantly from pre- to posttest. However, no significant differences were found between 122 of these Head Start children and 46 comparison children on the Raven's Progressive Matrices test.

In a study comparing Head Start children who viewed Sesame Street to a group participating in a Head Start kindergarten with a structured curriculum, Sprigle (1972) found the nonviewing group to perform significantly better in first grade on the Metropolitan Readiness Test.

In 1972 the Detroit Public Schools established a multisensory curriculum to foster child development and stimulate achievement motivation. O'Piela (1976) reports that a sample of 122 Head Start children made significant gains on the PPVT in the 1975-76 school year, though the scores were 11.8 and 5.3 points below norms at pre- and posttest, respectively. Significant gains on the Apell readiness test also were obtained for 245 children.

Dwyer et al. (1972) studied the effects of introducing an Environmental Academics program into regular Head Start classrooms in two counties in Florida. The curriculum involved matching number and word cards to real items and using them in additional activities. It was used one and one-half hours per day and lasted eight months. Results showed experimental children gained significantly and had significantly higher posttest means than controls on the

Stanford-Binet. Experimentals were also significantly higher than controls on the Clymer-Barrett Pre-Reading Battery, the Comprehensive Mathematics Inventory and two of six subtests of the Metropolitan Readiness Test.

In the national evaluation of the Home Start program in which children and their parents receive home visits aimed at enhancing child development, comparisons were made between Home Start, Head Start and control children (High/Scope, 1974). After 12 months in Home Start, there were no significant differences between Home Starters and Head Starters on the Preschool Inventory (PSI). However both groups scored significantly higher on the PSI than the control group.[8] Differences were not significant on the Denver Developmental Screening Test language scale or two other language and concept tests.

Reese and Morrow (1971) examined how the variation in the structure of a Head Start program can affect performance. They found that the socioeconomic mix of the Head Start program relates to child gains on the Preschool Inventory. In this study there were three groups of varying socioeconomic mixes of children. Head Start experimental group I had a 50/50 ratio of advantaged to disadvantaged children. Head Start experimental group II had a 25/75 ratio of advantaged to disadvantaged children. The control group was all disadvantaged (but in Head Start). On the PSI the gains of both experimental groups were significantly greater than that of the controls from pre- to posttest. There were no significant differences on the PPVT or the Test of Basic Experiences, General Concepts. Unfortunately, data are not presented by subgroup (disadvantaged/advantaged) so it is not clear whether the achieved gains were due to different rates of improvement made by advantaged or disadvantaged children.

Similarly, Jones et al. (1975) examined conceptual growth among Head Starters in ten schools in Boston. The centers had varied racial and socioeconomic mixes. Though children in all schools showed gains (some significant) over the operating year on the Boehm Test of Basic Concepts, there was no consistent pattern to these gains based on socioeconomic or racial mix. Though the authors claim differences existed based on the "cultural emphasis" of the center, their measure of this variable was very subjective and unreliable, as they acknowledge.

In summary, four major program evaluations (Huron Institute, 1974; Cline et al., 1980; High/Scope, 1974; Jones et al., 1975) found no differences in child performance related to different curricula. Only Miller and Dyer (1975) found such differences to be significant and they did not last into the school years. Two smaller studies (Willis et al., 1972; Dwyer et al., 1972) did find children in an experimental curricula to perform better than children in Head Start only, while Sprigle (1972) found the opposite. Three other researchers (Mundy, 1973; Miller, 1972; O'Piela, 1976) found significant gains for Head Start children in experimental curricula, but these results are similar to those found in studies of regular Head Start programs.

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[8]Deloria, D. Personal communication, October, 1982.

In conclusion, relying most heavily on the large program evaluations where significant differences are more likely to be found, it appears that there are few lasting differences among different curricula.

The two studies of the effects of varying the socioeconomic and racial mix of programs are conflicting. Reese and Morrow found a socioeconomic mix to enhance cognitive performance while Jones et al. found no consistent patterns as a result of socioeconomic or racial mix.

Longitudinal and Follow-up Studies

A crucial question for Head Start is the extent to which cognitive benefits to children are sustained over a number of years. Since the Westinghouse Study in 1969[9] first posed this question and found differences "washing out" after a few years, the issue has been of concern to policymakers and researchers. The Westinghouse results have been attacked because of serious methodological deficiencies in the study design. Even without these weaknesses, the results are not highly relevant for this review because the Head Start program evaluated by Westinghouse was quite different than the standard Head Start program operating in the 1970's (e.g., the early emphasis on summer-programs was abandoned and Head Start converted to eight- or nine-month program terms shortly after the Westinghouse results were released).

There are a number of recent studies which address the important question of long-term impacts. The longitudinal study which has received the most attention in the past few years, by Lazar et al. (Consortium for Longitudinal Studies, 1978), examined 12 different programs and found significant differences after six to ten years between children who had participated in preschool programs and those who did not. Those who had attended were significantly less likely to have failed a grade in school or to have been placed in special education classes. However, only two of the studies (those by Miller and Zigler) examined Head Start programs. The others were research-directed interventions carefully prescribed and monitored by the investigators.

The following two sections review intermediate (follow-up through second grade or less) and long-term (follow-up past second grade) studies of Head Start.

Intermediate-Term Studies (Follow-Up Through Second Grade or Less)

Hulan (1972) studied the test scores of 80 children who had attended Head Start in 1969-70 in comparison to 242 children who lived in the same neighborhoods and attended the same kindergarten classes the next year. The Stanford Early School Achievement test was administered to all the children in the

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[9]Westinghouse Learning Corporation. The impact of Head Start: an evaluation of the effects of Head Start on children's cognitive and affective development. (Vols. I-II). Athens, Ohio: Ohio University, 1969.

spring. There were no significant differences between the two groups. The author interprets this result as evidence that the Head Start children "demonstrated achievement equal to that of their more affluent counterparts from the same neighborhood schools." As all the children were from the same Title I schools, the degree of greater affluence for the comparisons is probably slight.

Larson (1972) found that Head Start children in rural Minnesota gained significantly on the Stanford-Binet IQ test over a year while control children did not. At the end of kindergarten there were no significant differences between Head Start graduates and controls on the Stanford-Binet. Significant differences favoring controls were found on the learning rate subtest of the Murphy-Durrell Reading Readiness Analysis, but not on letter sounds or letter names tests. At the end of first grade there were no significant differences on the Stanford-Binet, but the Head Start graduates scored significantly lower than randomly selected nonpreschool attending controls on four of six subtests of the Stanford Achievement Test.

The Hartford City Board of Education (1973) evaluated the progress of the 420 children who attended Head Start in the early 1970's. The PPVT was administered to 300 children in October 1971. In March 1973, 125 were identified in the school system kindergarten and retested. The Head Start children were 13 months below their chronological age in 1971 and 10 months below in 1973. However, the Head Start children scored significantly higher on the PPVT in 1973 than 717 kindergarteners from seven Hartford inner-city schools.

Abt Associates (1978) studied a stratified random sample of 656 children in 32 sites who had attended Head Start in 1976 comparing them to 670 non-Head Start children, 357 of whom had no preschool experience. The children were in kindergarten or first grade at the time of the study (the 210 children in the southeastern U.S. were about ten months older than children in other regions). Black Head Start graduates scored 4.3 points higher than their black no-preschool peers on the Wide Range Achievement Test (WRAT). White Head Start graduates scored 4.1 points below their white no-preschool peers. The authors caution that while the two black groups were roughly comparable on demographic variables, the white no-preschool group members were more likely to have mothers with higher educational levels, to come from two parent families and to have incomes averaging $4,000 more than the Head Start families.

Nash and Seitz (1975) followed 29 children, half of whom attended a full-day Head Start kindergarten while the other half attended a half-day kindergarten. They were compared to 20 children attending private kindergartens. All had attended full-day Head Start at age four. For those who attended the two public programs, the full-day children were significantly higher on the PPVT, color-form attention task, box maze measure of variation seeking, the graduated peg task of structuring tendency, and the WISC block design at the end of the kindergarten year. The authors felt the results showed "no indication of fade out effects for either the control group which left the Head Start program at the kindergarten level or for the experimental group which left the program to enter first grade" (p. 34).

Bee (1981) studied 20 children who had attended Head Start in Sioux Falls, South Dakota, comparing them to 20 who had not attended. She examined their rates of special education placement, retention in grade, and performance on a readiness test from 1977-1980. She found no significant differences between the two groups on special education placement, or Metropolitan Readiness Test scores. Head Start children were retained in grade significantly more often than the non-Head Start children in first grade only.

Johnson (1971) compared 137 children who had attended Head Start in Brevard County, Florida, to 141 of their peers at entry to first grade. The Head Start children scored significantly higher on the First Grade Screening Test but the controls scored significantly higher on the word meaning subtests of the Stanford Achievement Test. There were no differences on the Child Behavior Rating Scale.

In a follow-up study of Head Start comparison children in the Home Start program evaluation, there were no differences between Head Start and Home Start children in first grade on math and reading achievement tests or on tests of locus of control, social attitude and social problem solving. Though the data could not be analyzed statistically, because of noncomparability of groups, the Head Start children scored slightly below a more advantaged comparison group on math and reading (High Scope, 1979).

Borden et al. (1975) compared two cohorts of children who attended Head Start and Follow Through in Tupelo, Mississippi, to a comparison group that attended Follow Through only. No significant differences among groups were found on reading, math or spelling achievement in first grade. However, at the end of the second school year, the second Head Start cohort scored significantly higher than the first Head Start cohort or the controls on the Stanford Achievement Test's reading, arithmetic and spelling subtests. Differences on the WRAT subtests and the Slosson IQ test were not significantly different. Both the Head Start and Follow Through programs used behavioral teaching techniques.

Cawley et al. (1970) compared two groups of Head Start graduates who had attended the program in the mid-1960's to children who had not attended. They found no significant differences among the groups at kindergarten or first grade on the Peabody Picture Vocabulary Test, the Detroit Tests of Learning Aptitudes, or the Illinois Test of Psycholinguistic Abilities with all groups scoring in the low average or below average ranges.

The results of these studies are split. Four studies show that Head Start graduates score significantly higher than their elementary school peers on at least some tests. Fourteen studies have at least some results showing no significant differences between Head Start children and controls, however, two of these studies also showed Head Start superiority on some measures. Three studies show Head Starters scoring lower than their peers on subtests of achievement tests but, again, one of these also showed better Head Start performance on an overall test and the other two also showed no difference on other tests.

Three of these studies have controls that were more advantaged than the Head Start children on such indices as family income, parental education, or family size. Such differences were discovered post hoc, after the testing had been completed. These differences make valid conclusions difficult, but certainly bias comparisons in favor of controls.

When the early testing results from such long-term studies (discussed in the following section) as those of Clark, O'Piela, Miller, the Philadelphia School District, and Seitz, plus Arnoult's study of first graders described in the subsequent section on language, the results are more balanced with eleven studies showing Head Start graduates to be superior into the early school years (see Table I) compared to 14 showing no differences. Again, several of these studies have more advantaged control groups. Nevertheless, even though Head Start children may be outperforming their disadvantaged peers, they are still scoring well below norms and their middle-class schoolmates.

Long-Term Studies (Follow-Up Past Second Grade)

The most extensive Head Start longitudinal study, conducted by the Educational Testing Service (ETS, 1968-1976) has followed 1,875 children and their parents in four locations since 1968. Huge amounts of data were collected using a battery of developmental scales and tests. However, the study was designed to examine child development, not to examine the impact of Head Start on children. Thus, though control and comparison groups were also tested, data are not usually reported in ways that can be used to answer impact questions (neither experimental/control nor pre/post).

One report (ETS, 1976, Shipman, McKee, Bridgeman) does append a table showing third grade reading, math and Raven Progressive Matrices Scores for black Head Start subjects and black/no-preschool subjects. Though significance levels are not reported, the no-preschool children scored higher on all three tests than did the Head Start children. ETS (1976, Shipman et al.) also reports selected data on high-performing and low-performing children (based on third-grade reading and math tests and their predictive Preschool Inventory scores). Although Head Start attendance did not differentiate among these children on the achievement test scores, the authors state that for these children "a higher percentage of black Head Start-eligible children who had not attended Head Start or any other preschool program were retained in the first or second grade" (p. 23) compared with those who did attend Head Start.

Kanawha County (West Virginia) Board of Education (1978) compared children who had attended Head Start in 1973-74, to low-income children who had not attended. Though the Head Start graduates performed well at the end of the program, by the third grade there were no significant differences between the two groups on math and reading achievement tests.

In the four-curricula study by Miller and Dyer (1975) described earlier, the researchers followed the children through the seventh grade. Though the experimental groups were superior to the controls at the end of the Head Start year, "there was a steady decline in all programs with the sharpest decline for

Table 1

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Abt Associates Kindergarten for Non-southeastern U.S. children; First Grade for Southeastern Children		On Wide Range Achievement Test (WRAT). (White controls were more advantaged than white Head Start graduates.)	
Arnoult First Grade	On Illinois Test of Psycholinguistic Abilities		
Bee Kindergarten, First and Second Grade		On Metropolitan Readiness Test	
Borden First Grade		On reading, math or spelling achievement	
Post-Second Grade	On SAT subtests	On WRAT	

Table 1 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Cawley Kindergarten		On Detroit Tests of Learning Abilities (DTLA) or Illinois Test of Psycholinguistic Abilities (ITPA)	
First Grade		On DTLA, ITPA, Developmental Test of Visual Perception or Metropolitan Readiness Test	
Clark Kindergarten	On Vocabulary and Reading Achievement Subtests		
High Scope First Grade		On reading or math achievement. (Controls were more advantaged.)	
Hulan Post-Kindergarten		On Stanford Early School Achievement Test. (Controls may be more advantaged.)	

Table 1 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Johnson Pre-First Grade	On First Grade Screening Test	On 5 of 6 SAT subtests	On one subtest of SAT
Kanawha County Kindergarten		On Comprehensive Test of Basic Skills (controls came from same kindergartens, equivalence is unknown)	
Larson Post-Kindergarten		On two subtests of Murphy-Durrell Reading Readiness Test	On one subtest of Murphy-Durrell
Post-First Grade		On two subtests of Stanford Achievement Test (SAT)	On 4 of 6 subtests of SAT
Miller First Grade	To children in other Title I schools and above or equal to city norms (including middle-class children); equal to national norms on California Achievement Test		

Table 1 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
O'Piela First Grade	On SAT		
Second Grade	On SAT		
Philadelphia School District First and Second Grade	On reading and math on Stanford Early School Achievement Test and California Achievement Test in comparison to total city school population		

Table 1 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

INTELLIGENCE TESTS AND MEASURES OF SCHOOL SUCCESS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Abelson, Zigler & Deblasi (Seitz) Beginning of Kindergarten	On Peabody Picture Vocabulary Test (PPVT)		
End of Kindergarten		On PPVT	
End of First Grade	On PPVT		
Bee First Grade			On retention in First Grade
Borden End of Second Grade		On Slosson IQ Test	
Cawley Kindergarten		On Draw a Man Test and PPVT	
Hartford Mid-Kindergarten	On PPVT		

Table 1 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through Second Grade by Measure

INTELLIGENCE TESTS AND MEASURES OF SCHOOL SUCCESS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Larson Post-Kindergarten		On Stanford-Binet Intelligence Test	
Post First Grade		On Stanford-Binet Intelligence Test	
Nash and Seitz Kindergarten	Full-day Head Start graduates superior to half-day Head Start graduates on Wechsler Intelligence Scale for Children and PPVT. "No fade out effect for either group"		

the Bereiter-Engelmann curriculum . . . only the children from the Montessori program were equal to controls at the last testing (second grade)" (p. 113). It should be noted that the control group differed from the experimentals on some important demographic variables; more controls lived with two parents; more controls were white children and their family average income was higher. In first grade, the Head Start children scored higher than children in Title I schools and equal to city-wide averages and national norms in the California Achievement Test. In the 1977 follow-up, Miller found control children to score slightly higher than experimentals on the Wechsler Intelligence Scale for Children-Revised (WISC-R) but the difference was not significant. On retention in grade and assignment to special education, controls performed better than experimentals, but again the difference was not significant (Consortium for Developmental Studies, 1978).

In a study of 65 New Haven, Connecticut, children who had attended Head Start and Follow Through, Seitz, Apfel and Efron (in Brown, 1978) conducted several analyses of only those children who had attended Head Start. Head Start girls were superior to non-Head Start girls in tests of general information and intelligence in the third grade and on achievement and intelligence in the fifth grade. However, Head Start boys performed significantly worse than control boys on math achievement in the third and seventh grades, with no differences on other measures of achievement or intelligence.[10]

Results of a 1972-1975 follow-up of Detroit children who had attended Head Start in 1969-70 are reported by O'Piela (1976). Head Start graduates scored signficantly higher than children in regular Title I programs on math and reading achievement tests through the fourth grade.

Clark (1979) compared a different cohort of Detroit children who had attended Head Start to those who had attended a Title I preschool, also following them through the fourth grade. She found "positive effects for Head Start students on vocabulary and reading achievement measures at both kindergarten and fourth grade levels." However, children in the Title I group showed no gains over nonparticipants for both years, and no significant differences were found between Head Start and Title I children for either year.

Rocha (1974) examined the use of special education services in grades one through three by 48 children who had attended Head Start in Iowa, comparing them to a matched group of 48 children who were eligible but had not attended. The children were matched on the basis of age, sex, years of school attendance, and achievement test scores. Significantly more Head Start than non-Head Start

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[10]Additional data on Head Start graduates who also attended Follow Through are contained in a series of reports by Abt Associates (Abt Associates, 1976, 1977). Because those researchers were interested in Follow Through effects, Head Start effects are difficult to access in the reports and thus are not included here. Interested readers are referred to an examination of these effects in Collins, 1981, op. cit., and to the reports themselves.

students were found to use speech therapy, remedial reading, and psychological services.

Monroe and McDonald (1981) studied the progress of 130 children who had attended Head Start in Rome, Georgia, in 1965, comparing them to 88 who had not. In 1980, the school records were examined for these students who were 18 years old at the time. Head Start graduates were superior on almost all measures. For those still in the sample, 50 percent of the Head Start graduates and 33 percent of the non-Head Start children had graduated from high school. The remainder in both groups had dropped out. Fifty-one percent of the Head Start students had repeated a grade compared to 63 percent of the non-Head Start students. Eleven percent of the Head Start students had been placed in special education classes compared to 25 percent of the non-Head Start students. Achievement test scores at grades three and five favored the Head Start children, but groups had the same median percentile at grade eight. The median percentile for both groups gradually declined over their school years until grade eight, when the median percentile for both groups on the Iowa Test of Basic Skills was nine percent.

In an impressive collection of studies (from 1976-1981), the Philadelphia School District evaluated the progress of children attending its variety of preschool programs, including Head Start. Though the measures used differed over the years and the results are not presented in statistical terms, the reports represent a wealth of information on a large number of children.

In a 1981 evaluation, six cohorts of children up to the fifth grade were studied. The authors report the Head Start children "score close to or better than their counterparts in the school district on standardized tests through grade five" (p.10). This was true even though the general school population contained 55 percent AFDC recipient families and the Head Start sample was 98 percent AFDC recipients. Comparing the Head Start children to another Philadelphia preschool program--Get Set Day Care, a full-day program--the authors found more Get Set children scored above the fiftieth percentile on reading in kindergarten, first and second grades and in math at kindergarten. Children who attended either prekindergarten had higher percentages scoring at or above national norms in reading and math through the second grade than children not attending prekindergarten (Philadelphia School District, 1976, 1977, 1978, 1981).

Goodstein et al. (1975) followed an older cohort of Head Start children in Hartford who had participated in Head Start in 1966. They found that "a significantly smaller percentage of Head Start children than non-Head Start children had been placed in special education classes or retained in grade" by the sixth grade (pp. 11-12). There were no significant differences between the two groups on academic achievement, however.

Similarly, Ross (1972), in a study of Head Start graduates in the Seattle public schools through grade four, asked teachers to rate these children, their peers, and the Head Starters' siblings on a variety of developmental characteristics. He found no significant differences between the Head Start children and the general school population including children of higher socioeconomic

status on general intellectual development though the effect was less pronounced in language arts and arithmetic skills. Both the Head Start children and the general district population were rated significantly higher than the non-Head Start siblings on these scores.

Pinkelton (1976) studied 156 fourth graders in Cincinnati who had attended Head Start, comparing them to their nonattending peers. She found no differences between the two groups on measures of achievement, language processing or classroom behavior.

Summarizing the trends in these studies is rather complicated because different measures of performance yield different results, subgroups of children (cohorts, boys and girls) sometimes perform differently, and results differ within the same study in different years.

On achievement tests, some groups of Head Start children perform better than non-Head Starters in four studies (Seitz, Philadelphia, Monroe and McDonald, and O'Piela) and some groups perform worse in two studies (ETS and Seitz). In the Philadelphia study, Head Start children also did not score as highly as children who had attended an all-day preschool program. There was no difference between some Head Start groups and non-Head Starters in some years in seven studies (Seitz, ETS, Kanawha County, Monroe and McDonald, Pinkelton, Clark, and Goodstein). However, Head Start children performed no differently from more advantaged control groups in two studies (Philadelphia, and Miller and Dyer).

On measures of success in school such as retention in grade, teacher ratings, placement in special education, and dropping out, Head Start graduates usually fare better. In four studies, Head Start children performed better on these measures than their nonattending peers and, in two studies, Head Starters performed as well as more advantaged controls. In one study (Rocha), Head Start children used more special educational services than non-Head Start children.

These results suggest that while academic test score superiority obtained during Head Start is not consistently maintained, Head Start children may have developed the desired social competence so that they can progress in school, stay in the mainstream, and satisfy teacher's requirements better than their peers who did not attend (see Table II).

However, the nagging problem of nonexistent or noncomparable control groups confuses the conclusions. On one hand, the demographics from several studies show that control children often come from families that have higher incomes, are more likely to have two parents in the home, and have higher parental educational levels. On the other hand, parents of Head Start children who were motivated enough to get their children enrolled, may continue to motivate these young students to pass and to stay in school. However, Head Start was a relatively new program when many of the study children included in this section of the review attended it. Recruiting for Head Start was often a vigorous outreach program reaching both motivated and less motivated families.

Thus the question remains of the mechanism by which the Head Start effect operates. Head Start may affect children's learning directly. It may affect parental attitudes and through them, the child. It may affect both, yielding an interactive effect on the child's school performance. Whatever the mechanism, Head Start appears to be having the desired effect of enhancing school success.

Impact of Experimental Interventions

A number of investigators have used experimental, time-limited interventions to teach cognitive skills to Head Start children. The special programs range from music education to the teaching of problem solving. Generally, they are successful in that children usually score significantly higher on posttests than pretests and do better than nontreatment control groups.

Three studies report efforts to raise general intelligence through the insertion of experimental programs into a regular Head Start program. One used a particular short-term curriculum, the others used volunteers and mothers to enhance learning.

McGee (1972) introduced the Bessell-Palomares Human Development program as an experimental 28-week training program with a group of nine children who were five and six years old and enrolled in an Appalachian Head Start program. The children showed significant gains on the PPVT from pre- to posttest but nonsignificant gains on the California Test of Personality, and the Developmental Profile designed to measure change in awareness, mastery, and social interaction.

A specially designed developmental program taught by volunteers was the intervention studied by Wooden (1976). For three months, eight volunteers worked with 12 Head Start children one morning a week for two hours. The intervention included activities focusing on hearing and listening, vision, verbal facility, touching objects, drawing, physical coordination, and group discussion. These children gained significantly on the Slosson Intelligence Test from pre- to posttest while control children who received only the regular Head Start program in another community did not perform as well.

Mothers were encouraged to read to their Head Start children 15 minutes a day in an intervention conducted by Highberger and Brooks (1973). The 40 children in the experimental group were furnished with picture storybooks while the control Head Start students received toys from a toy library. After a 17-week intervention period, the experimentals were found to score significantly greater gains than the controls on the PPVT.

Two groups of researchers examined the effectiveness of efforts to teach Head Start children problem-solving or "learning to learn" skills. Walls and Rude (1972) presented 60 Head Start children with a series of two objects--one familiar and one unfamiliar to the child. They rewarded the children for selecting the familiar object, but discovered the children would explore a novel object anyway in what the authors termed a "learning to learn" effect.

Table 2

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through High School by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Clark Fourth Grade		Vocabulary and Reading Achievement Skills	
ETS Third Grade		High performers on achievement tests	On reading and math (may not be significantly different from Head Start graduates)
Goodstein Sixth Grade		Achievement tests	
Kanawha County Third Grade		On Comprehensive Test of Basic Skills (CTBS)	
Monroe and McDonald Third Grade	Achievement tests		
Fifth Grade	Achievement tests		
Eighth Grade		Achievement tests	

Table 2 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through High School by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
O'Piela Third Grade	On Iowa Test of Basic Skills		
Fourth Grade	On Iowa Test of Basic Skills		
Philadelphia School Disrict Third to Fifth Grades	Achievement Tests (controls were more advantaged)		
Pinkelton Fourth Grade		Achievement measures Language processing	
Seitz, Apfel and Efron Third Grade	Girls on 1 subtest of Peabody Indvidual Achievement Test (PIAT)	Boys on 4 of 5 PIAT subtests; girls on 4 of 5 PIAT subtests	Boys on PIAT math
Fifth Grade	Girls on 1 subtest and total PIAT	Girls on 4 PIAT subtests; boys on PIAT	
Seventh Grade	Girls on 1 PIAT subtest	Girls on 1 of 4 PIAT subtests; boys on 4 of 5 PIAT subtests	Boys on PIAT math

Table 2 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through High School by Measure

MEASURES OF SCHOOL SUCCESS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
ETS Third Grade	High performance on retention in grade		
Goodstein Sixth Grade	Special Education Placement and Retention in Grade		
Miller Through Seventh Grade		On retention in grade, assignment to special education	
Monroe and McDonald Through Twelfth Grade	Graduation from high school; retention in grade; special educaton placement		
Rocha Through Third Grade			On use of special education services
Ross Through Fourth Grade	To non-Head Start siblings on teacher ratings of intelligence, language arts, and arithmetic	On same measures with more advantaged general school population	

Table 2 (Continued)

Results of Longitudinal and Follow-Up Head Start Studies Showing Head Start/Control Comparisons Through High School by Measure

INTELLIGENCE TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Miller Seventh Grade		On WISC-R	
Seitz, Apfel and Efron Third Grade	Girls on PPVT	Boys on PPVT	
Fifth Grade	Girls on PPVT	Boys on PPVT	
Eighth Grade	Girls on PPVT	Boys on PPVT	

Shure and Spivak (1973) taught 113 four-year-old Head Start children cognitive problem-solving skills in an effort to help them handle their own interpersonal problems. For example, the authors would ask the children to name as many reasons as they could why a child in a picture was sad. A comparison group of 106 children received no training. The intervention lasted 12 weeks. The program was found to "significantly enhance ability to conceptualize solutions to a given interpersonal problem and potential consequences to a given act" (p. 7) as measured by the Preschool Interpersonal Problem Solving Test.

Two experiments introduced music training into Head Start programs with some success. Adkins and O'Malley (Hawaii University, 1971) examined the effectiveness of a music curriculum developed by the University of Hawaii on 39 Hawaiian Head Start children, comparing them to 20 children who participated in a motivation curriculum program. Using the Musical Aptitude Test as a criterion, all children made large gains over the school year, but the experimentals scored significantly higher than the controls on only one subtest.

Young (1974) compared two classes of 32 Head Start children with two classes of 32 nursery school children in terms of their abilities to benefit from a structured musical instruction program. One Head Start class and one nursery school class received the training; the others served as controls. The training lasted for nine weeks and consisted of 20 lessons. There were no significant differences among the disadvantaged experimentals, the advantaged experimentals and the advantaged controls at posttest. All three of these groups scored significantly higher than the Head Start controls.

Specific cognitive abilities and concept learning have been the focus of experimental, time-limited interventions using Head Start children and a variety of teaching techniques. For example, Keislar and Phinney (California University, 1970) taught two groups of Head Start children function words (negative terms) using two techniques. In the first situation, the children received novel reinforcement for their successes or errors and were allowed to manipulate puzzles that were part of the game. The second group could not manipulate the objects and received only one type of reinforcement for performance. After three days of game playing both groups showed significant gains on a listening comprehension test. However, there was no significant difference between the two groups' preference for the activity in which they had been involved.

Bryson (1970) studied the teaching of prepositional concepts in an experiment with 48 Mexican-American four-year-olds. One group received instruction in Spanish only, one in English only, and one bilingually. A control group received no instruction in these concepts. After three days of instruction the three experimental groups scored significantly higher than the controls on tests of demonstration and labeling of the prepositions. There were no significant differences among the three treatment groups.

Blumenfeld and Keislar (California University, 1970) had 30 four-year-old Head Start children play a "Tell and Find Picture Game" for 20 minutes for six days. The game is designed to teach both speaking and listening comprehension skills. Children showed significant gains from pre- to posttest on a researcher-devised test focusing on understanding prepositions.

Cohen (1971) taught letters to 40 Head Start children using films. Children who were asked to repeat the letter after it was presented in the film learned significantly better than those who were not asked to give an overt response. This was true for both four-year-olds and three-year-olds.

These studies demonstrate overwhelmingly that short-term, targeted efforts to improve general intelligence and specific cognitive skills are successful. Essentially, the children learned what they were taught and they made large and/or significant gains in every study.

When viewed against the less frequently found positive effects of the curriculum variation and long-term studies, it appears that these concentrated gains are not maintained over longer periods of time, at least with such consistency.

Impact on Perceptual Development

A child's perception of his or her environment is an important component of concept development and cognitive growth. Perception is the child's "selection, organization, and initial interpretation or categorization of sensory impressions--that is, of what he sees, hears, touches, smells, or feels."[11] As a child matures these abilities become more differentiated, the child recognizes and responds to various parts of what is perceived. Four studies were identified in this area, three of which had used experimental programs to enhance the perceptual development of Head Start children.

Geller et al. (1975) used two reinforcement schedules to teach visual attending to 16 Head Start children. One group received praise for attending; the other did not. Those who received praise scored significantly higher on a test responding to questions about what they had observed.

Lawhon (1972) examined the effects of two forms of stimuli instruction on 44 Head Start students. Over a one-month period one group received perceptual training using concrete stimuli which progressed to abstract and the other received training using only abstract stimuli. A control group received no perceptual training. As measured by the Developmental Test of Visual Perception, those who received concrete training had significantly greater gains than the abstract stimuli group and the control group. The abstract stimuli group did not have gains significantly greater than the control group.

Rice (1972), in two studies with very small samples (14 and 8 Head Start children, respectively), found a six-week perceptual motor training program to produce no significant differences between children who received the training and those who did not.

One of the tests frequently used to measure a child's ability to differentiate objects and to match similar ones--Matching Familiar Figures--also

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[11] Mussen, P., Conger, J., & Kagan, J. Readings in child development. New York: Harper and Row. 1969.

involves the child's ability to reflect on the task. The faster he acts, the more likely he is to make mistakes. Further, reflective styles of problem-solving are related to better performance on tasks like reading recognition and inductive reasoning. In a study examining this ability, Sklerov (1974) compared two groups of 16 low-income kindergarten children on their cognitive style of reflectivity-impulsivity. One group had attended Head Start, the other had not. Sklerov found the Head Start children to have a "significantly more reflective conceptual tempo" (p. 87) than the control children as measured by the Matching Familiar Figures test.

From these studies, it appears that special perceptual training efforts that use behavioral conditioning or which train children using techniques appropriate to their developmental stages are usually successful in increasing perceptual abilities. Further, Head Start apparently helps children develop more reflective cognitive styles.

Impact of Head Start on Language

The development of language skills is an important component of the Head Start educational program. The performance standards require that the educational plan provide for "promoting language understanding and use in an atmosphere that encourages easy communication among children and between children and adults."

In the mid-1970's, Kirk and Hunt studied Head Start children's problems with combining understanding of language with color concepts. Two studies (Kirk, Hunt and Lieberman [1975] and Kirk and Hunt [1975]) compared Head Start children to middle-class nursery school children in each of two consecutive years on tests of color identification. The authors found no differences in perceptual identification (matching two blocks of the same color). However, for "heard identification" ("what color is this block?"), Head Start children scored significantly lower than nursery school children, demonstrating, the authors say, that "social-class differences in the semantic mastery of color information by children in their fifth year are pronounced" (p. 314).

In an earlier study by the same authors (Hunt and Kirk, 1974), Head Start children performed at significantly lower levels on perceptual identification, spoken identification and listening identification. The Head Starters' scores were also significantly lower on tests of shape identification and identification of numbers of objects.

In contrast, Arnoult (1973) compared 60 first graders who had attended Head Start in Louisiana to 60 who had not. Those who had attended Head Start scored significantly higher than the nonattenders on the Illinois Test of Psycholinguistic Abilities.

Similarly, Von Isser and Kirk (1977) studied the changes in psycholinguistic abilities of 41 Head Start four-year-olds. Significant gains were found on the ITPA over a six-month period on all subtests except the grammatic closure and auditory sequential memory. Psycholinguistic quotients increased by an average of 8.7 points, a significant difference.

Enhancing language development by experimental treatments was attempted in four other studies reviewed for this report. Matthias (1972) studied the effects of three treatment conditions on the language of 45 Head Start children. One group of 15 received a specific ten-minute-per-day, eight-week language program taught by college students in addition to the regular Head Start program; the second participated in ten minutes of spontaneous conversation with college students; the third received Head Start only. The children in the language training program scored significantly higher than the spontaneous conversation group on the Visual Association and Auditory reception subtests of the ITPA, but not higher than the Head Start alone group. There were no significant differences among groups on the PPVT or the Verbal Expression or Visual Reception, or Auditory Association subtests of the ITPA.

Vukelich (1974) used a Language Process program to train low-income mothers to assist their Head Start children in language development. The children in this experimental group received ten minutes of specified language interaction with their mothers each day. Children in a second experimental group received ten minutes of interaction with college students. The control group received the regular Head Start program only. After three months, children in the mothers'-intervention group showed significantly greater gains on the PPVT and three subtests of the ITPA than children in the college student group. However, the mother-treatment group was significantly superior to the Head Start-only group on only one ITPA subtest.

Hutinger and Bruce (1970) examined the effects of adult verbal modeling and feedback on the oral language of Head Start children. Children who were trained and reinforced for modeling the adult's language performed significantly better on a posttest for production of adjectives and sentences than children who were given indiscriminant praise.

Beissel (1972) used behavioral modification techniques to increase the verbalization of a single child in a Mississippi Head Start program who rarely spoke. The child's frequency of verbalization rose from five percent of 15-second intervals to 48 percent at the end of the experiment.

While the language abilities of Head Start children have been found to lag behind those of middle-class children, these studies show that Head Start has a positive effect on language development, at least in the short run. Special interventions using training, modeling, and behavior modification have all been found to improve the language capabilities of these children.

Impact of Head Start on Bilingual Children's Language

The performance standards require sensitivity in program operation to the bilingual, bicultural child. The educational component must involve:

> Having a curriculum which is relevant and reflective of the needs of the population served (bilingual/bicultural, multicultural, rural, reservation, migrant, etc.).

Having staff and program resources reflective of the racial and ethnic population of the children in the program.

Including persons who speak the primary language of the children and are knowledgeable about their heritage. . . (p. 9)[12]

Researchers are beginning to explore how well Head Start serves the bilingual child. The major study to date was conducted by Juarez and Associates (1982) as an evaluation of the Head Start bilingual/bicultural curriculum models. Four hundred forty-two children were studied in eight sites. Two hundred forty-three children were in the experimental group; 199 in the comparison group. Over the course of the Head Start year, Spanish-preferring children in the experimental group made significant gains over comparison children on measures of English language acquisition, concept development and perceptual motor development. They also increased their use of English by 21 percent over the year and showed significant gains over comparison children on Spanish Language Production and Concept Development. English-preferring experimental children performed as well as comparison children on all English language measures.

Those children in the Head Start Planned Variation Study whose first language was Spanish made gains in receptive language skills three times as great as Spanish-speaking control children and considerably greater than children in regular Head Start programs (Huron Institute, 1974).

In a smaller and earlier investigation, Robinson (1972) compared the oral language of black, Mexican-American and white children in Arizona. Of the 43 children, nine had spent two years in Head Start, 14 had spent one year and 20 had not participated in Head Start. The author found no significant differences among the ethnic groups but did find Head Start effects for black boys. These boys, with two years of Head Start experience, gave fewer nonstandard English responses than did boys with one year or less Head Start experience, i.e., they performed better on this language test. These boys also produced a significantly higher proportion of standard auxiliary verbs than did boys with one year or less of Head Start.

As described in the section on special interventions, Bryson (1970) found that Mexican-American children tutored in prepositional concepts scored higher than children receiving no training. Counterintuitively, though, there were no differences among treatment groups receiving instruction in Spanish, English or bilingually.

In summary, Head Start programs with special or bilingual curricula apparently perform well in assisting bilingual children in language development and the closely related area of concept development, at least in those instances where the languages are Spanish and English.

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[12]Head Start Program Performance Standards (OCD Notice N-30-364-4). Washington, D.C.: U.S. Department of Health and Human Services. Issued 1975, reprinted 1981.

Impact on Cognitive Development of Handicapped Children

Approximately eleven percent of the children enrolled in Head Start programs are handicapped. Their special needs and cognitive development have been the focus of several research efforts.

The Administration for Children, Youth and Families sponsors an annual survey of programs to determine the level of effort in serving these children (Informatics, 1983). The range of handicaps is wide. In 1981-82, of all children classified as handicapped, the percentage for each condition was as follows:

Speech Impairment	60%
Health Impairment	11%
Serious Emotional Disturbance	5%
Mental Retardation	6%
Physical Handicap	6%
Specific Learning Disability	6%
Hearing Impairment	3%
Visual Impairment	3%
Blindness	less than 1%
Deafness	less than 1%

The largest study of handicapped Head Start children, the Applied Management Services studies (1978A, 1978B) sampled Head Start handicapped children in two consecutive years. The types of disabilities found are presented below.

Handicapped Head Start Children
Identified in Year I and Year II
of AMS Study

	Year I 269 children	Year II 400 children
Speech Impaired	22%	29%
Physically Handicapped	14%	19%
Mentally Retarded	13%	11%
Health or Developmentally Impaired	11%	17%
Learning Disability	12%	6%
Emotional Disturbance	11%	7%
Visual Impairment or Blind	8%	5%
Hearing Impairment or Deaf	9%	6%

Clearly, the AMS sample had fewer speech impaired, more physically handicapped, and more mentally retarded, blind and deaf children than the general Head Start population. However, this is the only large study available of the developmental progress of handicapped Head Start children.

Handicapped children in Head Start programs, non-Head Start programs and in no program were rated for their progress over an eight-month period.

Using the Alpern-Boll Developmental Profile which is based on parental reporting of child development, the authors found "few significant treatment effects for most Alpern-Boll subscales by handicap" (p. 8.9) over the operating year. However, there were some exceptions. Head Start children with speech problems scored significantly higher on all subscales except social skills at posttest than children in other, non-Head Start programs. Also, Head Start children with learning disabilities or emotional disturbances scored higher than non-Head Start handicapped children on the posttest measures of "academic age." Differences for physically handicapped or mentally retarded children were not significant on cognitive scores.

Conone (1979) examined the use of volunteer tutors to assist Head Start youngsters with special educational needs (mainly low achievement levels) in Wood County, Wisconsin. Participating children gained an average of four months in developmental age over chronological age as measured by the Alpern/Boll Developmental Profile in the first year. In the second year, three-year-olds averaged a 20-point increase on the Preschool Inventory, while four-year-olds gained an average of 16 points. In the third year, three-year-olds gained an average of 18 points, four-year-olds, 21.3 points and five-year-olds 16.2 points on the same test. No significance levels were reported.

Summary: Cognitive Development

Head Start appears to be enhancing the cognitive development of young children during the program year as evidenced by a number of studies showing significant pre/post gains. As the children grow older, these gains begin to dissipate. As the children move through school, fewer studies find differences between them and non-Head Start attendees to be maintained on achievement tests. However, several studies show that Head Start children are less likely to be retained in grade, assigned to special education, or to drop out of school. Because these indicators relate to adaptation to school and social skills as well as academic achievement, it may be that Head Start <u>is</u> promoting social competence. Even though these students may not score well on tests, they adapt better to the school environment so that they can remain in the mainstream longer than their non-Head Start peers.

There appears to be little difference among experimental curricula or between prescribed curricula and regular Head Start programs. Perhaps there are no real differences or perhaps Head Start's increased program maturation by the time the Planned Variation program began made "regular" Head Start as good as special programs. Some researchers have speculated that there may be a threshold level of program quality. Once a program passes this level, additional efforts do not produce greater effects. Head Start may have reached this threshold level by the late 1960's.

Head Start appears to help children develop more reflective cognitive styles and to enhance their language development, at least in the short term. Bilingual children appear to benefit considerably from their Head Start

experiences, particularly in knowledge of English and concept development, and especially when the programs have special or bilingual curricula.

Experimental cognitive training interventions are almost always successful in producing immediate gains on general intelligence, specific cognitive skills, and perceptual skills. Head Start also appears to enhance the cognitive abilities of some types of handicapped children.

Overall, Head Start seems to be having positive effects on the cognitive abilities of children. The effects are particularly pronounced immediately, decline gradually into elementary and high school, but evidence of them still remains in selected studies through the teenage years.

WHAT IS THE IMPACT OF HEAD START ON THE EMOTIONAL AND SOCIAL DEVELOPMENT OF CHILDREN?

A child's personality and his or her ability to get along with adults and other children are important concerns in Head Start programming. The independent, self-confident child is one who is most likely to be highly motivated to achieve, and the cooperative, nurturant child is most likely to be popular with other children and adults.[13] Head Start aims to promote healthy emotional and social development through providing "a supportive social and emotional climate which enhances children's understanding of themselves as individuals and in relation to others . . . gives children many opportunities for success . . . provides an environment of acceptance which helps each child build ethnic pride, develop a positive self-concept, enhance his individual strengths and develop facility in social relationships."[14]

Emotional and social development have been the focus of a range of studies. These studies have investigated the development of a positive self-concept, the development of curiosity, achievement motivation and self-control, and the development of emotional maturity. Several researchers also have explored the relationship between self-concept and achievement. Other studies have examined how the developing child relates to peers and adults, and how Head Start affects these relationships.

The studies in this section should be viewed with the caution characterized by Walker (1973) who, in her book reviewing socioemotional measures for young children, severely criticizes many of the measures used in these studies. She finds that for such measures "standardization procedures are practically nonexistent, reliabilities are generally moderate, and validity is generally poor" (p. 39).[15] The heavy dependence of these measures on the child's verbal ability and children's strong desires to please adults by giving "socially desirable" answers are two of Walker's greatest concerns about validity. She feels that the most valid measures are observational ones. However, most of the studies reported here rely on the child's self-report.

Though emotional and social development are important goals of Head Start, there are fewer studies in this area than in cognitive development. Earlier reviews of the Head Start literature attribute this dearth to difficulties in measuring socioemotional development (Hertz, 1977; Zigler, 1973; Walker, 1972). Still, Hertz, Zigler and other reviewers (Datta, 1972; Mann, 1977) have reported that Head Start has a positive effect on various affective and social domains.

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[13]Mussen, Conger and Kagan, op. cit. pp. 346, 405

[14]Head Start Program Performance Standards, op. cit. pp. 6-7

[15]Walker, D. Socioemotional measures for preschool and kindergarten children. San Francisco: Jossey-Bass, 1973.

The Effects of Head Start on Emotional/Personal Development

The typical Head Start four-year-old is just beginning to develop the personality characteristics that enable him to break away from his mother, control his behavior, develop a sense of self, curiosity and strivings for autonomy and achievement.

The development of a positive self-concept is a primary goal of Head Start. However, the topic has received little attention from researchers in the last decade. In one of the few studies identified, Bridgeman and Shipman (ETS, 1975) tested 1800 Head Start children and found self-esteem measures for both Head Start and non-Head Start children to be "uniformly high as measured by the Brown IDS Self-Concepts Referents Test." These scores remained high through first grade, but had declined by third grade. The authors suggest that "preschool teachers need not stress programs designed to improve self-esteem . . . (but) teachers in the early elementary grades, especially teachers of economically disadvantaged children should be particularly aware of their own behaviors which may decrease the initially high levels of children's self-esteem" (p. 73).

In a case study of the implementation of a humanistic curriculum in a Head Start class in Chester, Vermont, Dodge (1974) examined effects on self-fulfillment, self-regulation and self-concept. Rating the children's behavior in the classroom, she concludes that "all objectives but one record behavior at the 3.0 range in May which is clearly above the December range. In each goal area, there is an increase in the behavior specified as desirable by the model" (p. 125).

There has been slightly more interest in the relationship between self-concept and achievement. Washington (1974) examined the relationship of self-concept and academic readiness in 46 Head Start children and 46 middle class kindergarten children in Mississippi. As measured by the Screening Test of Academic Readiness and the Thomas Self-Concept Values Test, no significant relationships between self-concept and readiness were found for the two groups.

Noland (1972) studied the self-esteem of 30 black Head Start children and 30 white kindergarten children in Alabama. She used the Clark U-Scale, the Self-Esteem Subtest of Children's Self Social Constructs Test and the Boehm Test of Basic Concepts to examine relationships between self-concept and achievement. The kindergarten children scored higher on the concepts test and on self-concept as measured by the U-Scale, but no differences were found in the Self Esteem Subtest. The U-Scale was found to be more predictive of achievement in kindergarten and Head Start than the Self Esteem Subtest.

Bridgeman and Shipman (ETS, 1975) found self-esteem measures in Head Start did not predict third-grade achievement and they related to achievement in Head Start only for urban girls. They postulate that self-esteem is more affected by academic achievement in the early school years than vice versa. In a special analysis of high and low achievers in this study, Shipman et al. (ETS, 1976) found that children who showed the greatest gain in academic achievement through the third grade had a "continuing warm and stimulating classroom

environment combined with a home environment that provided the child emotional support in general and support for school activities in particular" (p. 38).

Part of a child's self-concept is his or her racial identity and sex role identity. Two studies examined relationships of race to self-concept. In the Jones et al. (1975) study described earlier, Jones examined a program designed to enhance self-esteem among children in racially mixed Head Starts. One year the program lasted five months, the second year it lasted two months. Significant positive effects of the program for self-concept were found for the first year and effects were greater for boys than girls. The effects were not significant the second year.

Spencer and Horowitz (1973) studied the perceptions of Head Start children in regard to color--black and white. They found both black and white children to prefer white, but an experimental procedure to reward children for choosing black produced significant differences in changing behaviors over control children.

Rose (1975) found southwestern Head Start boys to have significantly stronger sex role preferences than girls on the It Scale for Children. (The ITSC requires children to make very stereotypically male or female choices as between a doll high chair and a train engine.) Also, teachers rated boys as having more behavioral problems than girls, but the teachers did not consider the boys' behavior to be extreme, according to the author.

To summarize, though development of a positive self-concept is a major Head Start goal, relatively little research has been conducted on it in the last decade. The experimental treatments used by Dodge and by Jones et al. apparently did enhance self-concept somewhat, but because of the size and quality of the ETS study, we tend to agree with Shipman's assessment that self-esteem is high in the preschool years, and not very amenable to enhancement by Head Start. At least this appears to be true the way it is currently measured. Self-concept has not been found to be reliably predictive of current or later achievement. Shipman's suggestion that achievement in school is probably a determinant of a child's self concept (rather than the reverse) seems plausible on the basis of these studies.

In regard to racial identity, two efforts to enhance self-concept in racially mixed groups and by reinforcement were partially successful.

On sex role identity, the single study indicates stronger identity for boys than girls on one measure. Simply put, it appears Head Start boys are more "boyish" than Head Start girls are "girlish" and while teachers find some of this boyish behavior difficult, they consider it normal.

Effects on Curiosity and Exploratory Behavior

Curiosity and exploratory behavior have been examined by Minuchin (Temple University, 1971), Feeney (1972), Miller and Dyer (1975) and Nash and Seitz (1975). Minuchin studied correlates of curiosity and exploratory behavior in

18 Head Start children in Philadelphia. She concluded that exploratory behavior was related to differentiation of self-image, expectations of coherence and support in the environment (mainly from adults), and concept formation.

Feeney (1972) compared children in two Head Start curricula (Bereiter-Engelmann and the Responsive Model) on measures of exploratory behavior (Curiosity Box), innovative behavior (Dog and Bone), approach to materials and stance toward learning (Free Play Observation Instrument), and self-sustained learning during teacher absence (observation). Children in the Responsive Model Classes scored significantly higher on the Curiosity Box. No differences were found on the other measures. The author cautions that there were more three-year-olds in the Bereiter-Engelmann class, and that the curriculum was not fully implemented, thus the results are tenuous.

In Miller and Dyer's four-curriculum comparison study, all experimental groups performed better than controls on the Curiosity Box over the Head Start year, and the DARCEE curriculum model students performed the best.

On the Dog and Bone test, the Traditional and Bereiter-Engelmann models scored lower than the DARCEE and Montessori models. Scores for all models increased over the subsequent years until second grade. The authors speculate that because children in the Bereiter-Engelman and Traditional curricula had received more negative feedback on answers and behavior, they were less likely to experiment with the test materials.

Nash and Seitz (1975) compared children in a full-day Head Start kindergarten to children in a half-day kindergarten who had previously attended Head Start. They found no differences between the groups on measures of curiosity or reflectivity, but they did report significant differences favoring the full-day group on a measure of variation seeking and on a peg task of structuring tendency. Both of the latter items are related to motivation and the need for mastery of the environment. While the authors felt differences were increasing toward year end, the large number of assessments (over 20) is cause for caution in interpretation of the findings.[16]

These studies do not provide much enlightenment on the effects of Head Start on curiosity. They imply that programs that are more supportive and less didactic encourage exploratory behavior more than a more didactic one, and that a full-day program enhances performance on variation seeking behaviors, but these latter findings are tenuous at best.

Effects on Achievement Motivation

Interest in the motivation of children has been apparent in Head Start research, as have efforts to increase their motivation and task orientation. In Deloria's comparison of Home Start, Head Start and control children on the Schaeffer Behavior Inventory (a parental rating scale) (High/Scope, 1974), Home

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[16]The more tests for difference performed in a study, the greater the probability that some will be significant on the basis of chance alone.

Start children gained significantly on items measuring task orientation over the program year. Head Start comparison children did not change significantly on these measures, nor did control children. However, on a tester's rating of the child's test orientation and sociability during testing, both Head Start and Home Start children gained significantly over the year on test orientation, but not in sociability. The control group performed in the reverse.

The results were similar in a study by Benson and Kuipers (1974). The authors tested 90 Anglo and Mexican-American Head Start children with the Preschool Inventory (PSI). They found the children's scores on the PSI to correlate positively with Classroom Behavior Scale scores on extraversion, task orientation, general adjustment and peer adjustment. The scores were negatively correlated for ratings on introversion and distractibility. No correlations were found between ratings on hostility or consideration of others and the PSI.

Efforts to motivate children to perform better were studied by Adkins and O'Malley (Hawaii University, 1971) and Quay (1971). In an attempt to teach motivation to Head Start children in Hawaii, Adkins and O'Malley (1971) designed a special motivation curriculum. No differences were found from pre- to posttest or between the experimental and control group of Head Start children on the Gumpgookie test which is designed to measure academic achievement motivation.

Quay (1971) examined differences in testing conditions to determine the effect of using candy versus praise and black English versus standard English on the scores of 100 black Head Start children on the Stanford-Binet. No differences were found for reward or language style. In these two studies, the special interventions had no effect on changing the achievement motivation of the children.

The concept of locus of control, the degree to which a child feels he or she has some internal control over what happens to him or her, is related to internal drive for achievement. This contrasts with an external locus of control in which events are perceived as controlled by chance or luck. The child who feels a sense of control is more likely to strive for achievement than one who feels his or her efforts have little effect. Stephens and Delys (1973) found lower internal control scores for 55 Head Start children than 50 middle-class nursery school children, but no differences between black and white Head Start children measured by the Stephens-Delys Reinforcement Contingency Interview (SDRCI) (1973). Stephens (1973) also found that a Montessori preschool program increased internal control scores more than a Head Start or a more structured preschool program as measured by the SDRCI, but the difference was not significant.

The degree to which a child can control his behavior can also affect achievement. Seitz (1972) studied the relationship of an analytic style of children on the Preschool Embedded Figures Test (PEFT) to several measures of impulse control. For the sample of 47 Head Start children, she found significant positive relationships between the PEFT and one measure of inhibition of

motor control. She also found a positive relationship between the analytic factor in the WPPSI and a teacher rating of capacity for impulse control.

Also of possible relevance to achievement is a child's liking or disliking of school. Seitz, Apfel and Efron (Brown, 1978) followed two cohorts of Head Start and Follow Through children in New Haven, Connecticut, through the eighth grade. They found the second cohort of Follow Through girls significantly less likely to report that they liked school than the girls who had not attended Follow Through even though the Follow Through girls were better performers than the controls. There were no differences for the other groups. The authors attribute this difference between the girls to "reflect an awareness of what a more positive school experience could be" (p. 106). This finding is consistent with that of Shipman (ETS, 1975), reported in greater detail in a subsequent section of this chapter.

These studies reveal that, on some measures, Head Start children score higher on test orientation than controls, but not on task orientation. Task orientation has been found to relate to performance on cognitive tests in Head Start children. Special efforts to improve achievement motivation are not found to be successful. Head Start children score lower than middle class children on locus of control measures and different curricula appear to have little differential effect on this characteristic. Finally, a liking or disliking of school is not necessarily related to performance in school for the children studied.

Social Development and Interactions

Head Start is one of the first extended extrafamilial social experiences for participating children. The question of how Head Start affects that social development is an important one, but one that has not received a great deal of attention in the literature. The studies that exist focus most closely on school-related social behavior.

Pinkelton (1976), in her dissertation study of 156 fourth graders in Cincinnati who had attended Head Start, found no differences between Head Start and non-Head Start children on the Devereaux Elementary School Behavior Rating Scale. She did find that former Head Start students who had been referred to the school system's special services program were significantly more inattentive, withdrawn, and rigid than their nonreferred Head Start peers. They were also more apt to cause classroom disturbances, to work slowly, and to give irrelevant responses to questions.

A 1978 Abt Associates study compared 656 Head Start graduates from 99 centers to 670 non-Head Start children via teacher ratings. Head Start children scored higher on proximity and attention-seeking, were less conflicted in these types of behaviors, and ranked higher on assertive/aggressive behaviors. The authors interpret these findings as showing that "Head Start children tend more to seek closeness with other children and adults, attention from others and to a certain extent more help from others. At the same time they are more direct and consistent and less confused or vacillating in these activities, suggesting a higher level of confidence or certainty. Also Head Start children

tended to be rated higher on their displays of physical or verbal aggressive behavior" (1978B, p. 22).

Similarly, Ross (1972), in a study of Head Start graduates in the Seattle public schools, asked teachers to rate these children, their peers, and the Head Starter's siblings on a variety of developmental characteristics. He found no significant differences between former Head Start children and the more advantaged general school population on social or emotional development. Both the Head Start children and the general district population were rated significantly higher than the non-Head Start siblings on these scores.

The effect on social skills of variation of the curriculum was studied by Rentfrow et al. (1975). They compared a class using a special curriculum to encourage children to learn through all their senses and to actively participate in the learning process to Head Start classes using more traditional approaches. Using the McCarthy Scale of Children's Abilities as the measure, the authors found minimal differences between the two groups on the societal arts and skills cluster of the tests on gains from pre- to posttest.

Similarly, Shure and Spivak (1973) used a special teaching approach to help 113 Head Start students think for themselves in ways to solve their interpersonal problems and to carry out these strategies. The intervention appeared to help all the children but especially those who were "most aberrant." It helped, equally, children who were very impulsive or very inhibited.

In a large study of the effects of a bilingual-bicultural curriculum on Spanish-speaking and English-speaking children, Juarez and Associates (1982) examined the socioemotional behavior of a subsample of 46 children of whom 26 were Spanish-preferring. Observations revealed increases in the "average proportion of appropriate socioemotional behavior over the preschool year." This increase was largely due to gains of 58 percent of the children in motivation. Throughout the year the majority of observed behaviors in the area of self-esteem were positive. Inappropriate behavior increased at year-end, due, the authors said, to "waning interest in preschool as summer vacation approaches leading to less participation in group activities" (p. 73).

Reese and Morrow (1971) examined the impact of varying the socioeconomic mix of a Head Start program on the social behavior of children. These authors found as the level of socioeconomic mix increases there is an increase in interaction between the children and adults and a decrease in interactions among children. As the mix decreases, (i.e., the group becomes more socioeconomically homogeneous), the children mix more with each other.

In this study there were three groups of varying socioeconomic mixtures. Head Start experimental group I had a 50/50 ratio of advantaged to disadvantaged children. Head Start experimental group II had 75 percent disadvantaged and 25 percent advantaged. The Head Start control group was all disadvantaged. The experimental groups had significantly greater gain scores than the control group on persistence, field independence, and prognosis for a child to do well in kindergarten on the Cincinnati Autonomy Test Battery. On the Kansas Social Interaction Observation Scale, the children in the most equally mixed

group scored significantly higher gains than the other groups for subscores on interaction with adults. Gains in interaction among peers were highest for the control group, with the second experimental group almost as close. The authors also found the more mixed groups increased significantly more than the control on the Preschool Inventory over the operating year.

Unlike performance in the cognitive realm where Head Start children fall below the general school population in performance, the social behavior of these children has been found to be similar to their schoolmates in several studies. Indeed, the Abt study found them more sociable (in those researchers' terms) and also more assertive and aggressive than their peers. Two studies found positive benefits from experimental interventions or particular curricula in enhancing social skills, while another found no difference between an experimental program and regular Head Start. Reese's examination of socioeconomic mixing presents a dilemma of conflicting goals for Head Start as cognitive gains apparently result from a more heterogeneous grouping while this structure produces less interaction among children and more between children and adults.

Longitudinal Studies of Emotional and Social Development

Other than the Seitz and Ross studies, cited in the earlier section, only two studies were located that examined the socioemotional development of Head Start children longitudinally.

Miller and Dyer (1975), in their comparison of four types of Head Start curricula, found that children who participated in DARCEE and traditional classes scored higher on verbal-social participation through the end of the second grade than did controls or their peers in Montessori or Bereiter-Engelmann classes. Scores for children in all programs except Bereiter-Engelmann increased over the four years on the Curiosity Box test which correlates with social competency measures. They also declined somewhat in aggression ratings.

Shipman's ETS study of Head Start children in four locations began prior to their entry into Head Start in 1969. Her work reveals much about the characteristics of these children over time, but few direct comparisons to non-Head Start children. As mentioned earlier, on the Brown IDS Self-Concept Referents Test, Shipman found the children to score very highly on self-esteem even prior to Head Start, but their scores dropped by third grade (ETS, 1975).

Children's scores on the measure for achievement motivation (the Gumpgookie Test) were found to be predictive of third-grade reading scores for boys and girls in both the urban and rural sites. The predictive ability for this test was quite mixed on measures of math or problem-solving ability. The same was true of the first grade Schaefer Task Orientation test ratings except that these ratings were predictive of reading and math achievement for urban girls at third grade. Self-reported school enjoyment was high for all children in first and third grades and significantly higher for Head Start boys in the third grade.

Ratings of children's task orientation by their first grade teachers correlated highly with third-grade achievement and significantly added to predictions from Head Start year achievement scores. The author concludes:

> While self-reports by low-SES black children in first grade indicated that they enjoyed school and had high levels of achievement motivation, these positive attitudes were not reflected in their basic reading and math skills, or, especially in boys, in task-oriented behaviors as perceived by their teachers. Thus, while developing positive attitudes may be necessary for school success, it is obviously not sufficient; teachers also must provide adequate instruction on the appropriate task-related behaviors. Also, the school environment must reinforce and sustain such interest and motivation. Of course, the extent to which the teachers' perception of low-SES black children as less task oriented created an expectancy cycle of effects is unknown. (p. 78)

In conclusion, it appears from the work of Seitz, Ross, Miller and Dyer, and Shipman that self-esteem declines once a Head Start child enters school. However, Head Starters appear to perform as well as their more advantaged peers into the early school years on social development.

Impact of Head Start on Emotional and Social Development of Handicapped Children

The AMS study of handicapped children in Head Start evaluated their progress in social development, comparing them to children in non-Head Start programs. The authors concluded, "Head Start children showed less adult-oriented behavior and more positive child interactions than their non-Head Start peers over the course of the program year" (Applied Management Sciences, 1978B, p. 8.46).

These investigators also found that across all handicapping conditions, Head Start children achieved greater developmental gains on self-help skills than non-Head Start children. These differences were significant only for children who were speech-impaired or physically handicapped.

Of the handicapped children in the 59 Head Start programs studied, AMS found 66 percent to be "socially integrated" in classroom activities, 24 percent were somewhat socially integrated, and ten percent were considered socially isolated. More of the emotionally disturbed and mentally retarded children were isolated than were children with physical handicaps (AMS, 1978A).

Similarly, HEW's Service Delivery Assessment study found Head Start to be "very successful in mainstreaming the handicapped." They found handicapped children to be "well integrated into the classroom" (HEW, 1977, pp. 40-41).

Summary

The effects of Head Start on social-emotional development are as broad and amorphous as the area itself. However, a few conclusions can be drawn.

Self-esteem appears to be at ceiling levels in preschool and the additional effects of Head Start on it are hard to determine and little studied. However, some special interventions designed to enhance self-esteem appear to be successful over the short term.

Self-esteem does not reliably correlate with current achievement nor consistently predict later school achievement in Head Start children. Further, self-esteem declines once the child enters school.

In terms of affective behavior that relates to achievement, there is some evidence that curricula that are less didactic and provide less negative reinforcement to the child may enhance curiosity. A full-day program may increase variation seeking behavior.

Head Start children have been found to increase on some measures of task orientation over the program year and task orientation has been found to correlate with intelligence in Head Start children. In contrast, special efforts to increase the related ability of achievement motivation have not been successful. Similarly, studies to date find Head Start children lower than middle-class children on measures of locus of control and Head Start has not been found to increase these scores.

On social development, Head Start children are usually rated no different from the general school population. However, they have been found to be more aggressive and more attention seeking, but also more sociable and assertive than their peers.

Some studies show positive effects on social development after participation in a program with a special curriculum. Children from some types of Head Start curricula maintain superiority on social participation through the second grade. Further, one study found that, as the socioeconomic mix approaches equality, children interact more with teachers and less with each other.

Head Start is fairly successful at socially integrating handicapped children into their programs. Physically handicapped children show more gains in social development than do children with mental or emotional disabilities.

WHAT IS THE IMPACT OF HEAD START ON THE PHYSICAL HEALTH OF CHILDREN?

Very few studies have been undertaken to measure the effects of Head Start on the health of children. Those studies which do analyze health status are usually cross-sectional surveys of Head Start children.

Twenty studies pertaining to health were identified for this review. The largest number of these, ten, deal with general health, three deal with nutritional status, three with dental health and the remainder with physical development and the health of handicapped children. No studies of mental health were found.

According to the performance standards, Head Start programs must provide comprehensive health services to children. These should include medical and dental screening and treatment, immunizations, mental health services, health education, nutritional services, and services to handicapped children. The need for such services is evidenced by research on the health status of low-income children. Seham (1970) cites data on children entering an urban Head Start center showing that 34 percent had not seen a physician in two years, 75 percent had never seen a dentist, about 14 percent were not born in hospitals and 50 percent had not been immunized against childhood diseases.

Similarly, in Shipman's longitudinal study of 1,800 Head Start children in four communities (ETS, 1971), "a higher frequency of health-related problems were found (among these children) than is found with upper socioeconomic groups." There were "more prenatal, birth and postnatal complications, more abnormal findings on the visual and auditory screening tests, higher suggested incidence of neurological problems, below average hemoglobin levels, and fewer immunizations" (p. 39).

Mason (1973) provides additional evidence of potential health problems of a sample of 295 black Head Start children in Harrison County, Mississippi: 84 had positive sickle cell trait tests.

Because so few studies address directly the effects of Head Start on child health, this review included studies which report simply whether health services were being provided. The provision of services is considered a proxy for identifiable impacts. The Administration for Children, Youth and Families conducts an annual survey of Head Start programs to determine compliance with performance standards. This survey, called the PIR because it is based on Program Information Reports completed by the local programs themselves, contains information on the delivery of health services. The 1981-82 PIR (Maxima, 1983) reports that 84 percent of the over 340,000 children enrolled had completed medical screenings by the end of the year. Of these, 25 percent were diagnosed as needing medical treatment and 95 percent of those received it. Ninety-three percent of all children were up-to-date on their immunizations by year end.

An evaluation of the health component in a 1977 Service Delivery Assessment (HEW, Region III, 1977) studied 29 "representative" Head Start programs in

six regions. It noted that "Most programs have developed strong health components and nutritionally adequate food service" (p. 5). The report states that "spot checking of records and discussions with parents confirmed the program's claim of 100 percent immunized" (p. 36). The provision of mental health services was less adequate due to the irregular quality of these services in the communities. The major health problems of Head Start children cited by the study were speech, hearing and vision, with dental disease being foremost in areas lacking fluoridated water. The study found 52 percent of the centers to be in full compliance with health performance standards and 22 percent more to be only slightly out of compliance.

Other surveys generally point to Head Start effectiveness in providing health screening and immunization, but to less success in providing medical treatment. In an evaluation of 30 Head Start/EPSDT demonstration projects (of a 200-project population), Boone, Young and Associates (1976) extrapolated from their data to project that 125,985 children had been screened for health problems during the program's first year. This was a "four-fold" increase over the previous year. One out of five children screened was diagnosed or treated, generally for chronic or acute conditions. Dental care was the most prevalent service provided--again "four-fold" over the previous year. Ninety-two percent of the Head Start children classified as needing mental health services received psychological testing but only 13 percent were counseled or referred for other services.

Reyes Associates (1980) reported less success in screening and treatment by migrant Head Start programs. Their survey of 77 migrant Head Start centers identified medical screening of 522 children which revealed medical problems and resulted in treatment for 335 children. Only 42 of 77 surveyed programs had screened all children enrolled. Children at 40 of these centers had dental problems and 238 of 309 referred (73%) were treated. Thirty-seven programs had screened migrant children for developmental problems resulting in 83 referrals and treatment of 37 children (44%). Immunizations were up to date for about 40 percent of the children.

The 1981-82 PIR Survey (Maxima, 1983) reports similar findings on migrant programs. Though about the same percentages of migrant children (26.6%) as regular Head Start children (25.3%) are identified as needing medical treatment, migrant programs fall below regular Head Start programs on the percentages of children screened and treated, as shown below:

	Head Start Average	Migrant Average
Percentage of Children Receiving Medical Screening	84.2	62.6
Percentage of Children Receiving Needed Medical Treatment	94.8	90.8
Percentage of Children Receiving Dental Exams	78.2	53.4

Percentage of Children Receiving Needed Dental Treatment	92.9	80.7
Percentage of Children Up-to-Date in Immunizations	92.6	76.9

A comparison of health services received by Home Start and Head Start children was presented by Deloria (High/Scope, 1974). Head Start children had received significantly more immunizations, had better diets, and had visited a doctor more recently than Home Start children. Further, Home Start children received better medical care than control children. Head Start program children were more likely than Home Start children to be immunized over the school year while Home Start children were more likely to gain weight over the year.

Based on these surveys, it is clear Head Start is providing health screening and treatment services to large numbers (though not all) of Head Start children. But are these services making children healthier? The following sections address this question.

The General Health of Head Start Children

Ross (1972) studied the effects of Head Start on 108 Head Start graduates in grades K-4, their older (non-Head Start) siblings and the overall district sample of children in Seattle. Teachers rated former Head Start students higher than their siblings on physical and motor development. There was no significant difference between the Head Start children and the more advantaged general student population on this measure.

In a small study, Cook (1976) found that 14 Head Start children in Maine had significantly lower hemoglobin and hematocrit levels in their blood than a comparison group of 13 higher SES nursery school children at the beginning of the school year. However, by the spring the differences between the two groups had decreased.

Hambidge (1976) found significantly lower zinc in the blood of 74 Denver Head Start children, selected for low height, than children in a middle-class comparison group. A zinc supplement was provided for half of the Head Start children and a significant difference in growth for boys was seen after 6 months but no differences were present after 9 or 12 months.

Among other factors, the Huron Institute (1973) studied motor inhibition of over two thousand children in Head Start Planned Variation and regular Head Start programs. The study reported a significant increase from pre- to posttest at nearly triple the natural growth rate for all Head Start children. However, there were no differences between Planned Variation and regular Head Start children.

Adkins and O'Malley (Hawaii University, 1971) developed music and physical development curricula to stimulate physical development of Head Start children in two classes in Hawaii. Using the Bayley Scale as a measure, no significant differences were found from pre- to posttest. The authors concluded that

since children were near norms at pretest, there was no delayed motor development present to be remediated.

The AMS 1978B study found that, at posttest, mentally retarded children in Head Start performed significantly better than similar children in non-Head Start programs on motor skills. These differences were not found for children with other types of handicapping conditions.

As the HEW Service Delivery Assessment study reported, Head Start is doing an excellent job of screening children for medical and dental problems and immunizing them against diseases. All studies reviewed confirm this, but they also describe a less effective program of medical and dental treatment. This is especially the case for migrant programs.

Head Start children apparently are healthier as a result of Head Start and do not differ significantly from their more advantaged peers on physical development. This is so despite the fact that the Head Starters entered the program with health status below that of more advantaged populations.

The Nutritional Health of Head Start Children

Nutrition is an important component of the Head Start program. Centers provide meals, snacks and nutrition education to children and parents. The 1981-82 PIR survey reports that 93 percent of all programs reported receiving funds for food from the U.S. Department of Agriculture (Maxima, 1983).

Horner (1977) (also Olson, 1974) credits Head Start's two meals a day for contributing to less growth depression among 67 Chippewa Indian children in Wisconsin than among comparable southwestern Indian children. However, they did find that five to eight percent of these children were still under height for age, 28 percent were overweight and hemoglobin levels were below an acceptable level for 25 percent. Symptoms of infections were found for 31 percent of the children but no signs of malnutrition.

Gietzen and Vermeersch (1980) compared a group of children who had attended Head Start to two other disadvantaged groups of children (Title I and those receiving Free School Lunch) as well as to a group of higher SES children who had attended a private preschool. The private preschool children outperformed all the disadvantaged groups on the Comprehensive Test of Basic Skills, on measures of placement in academic tracks, in special education and retention in grade. However, Head Start children had significantly fewer absences due to illness than their Title I or Free Lunch peers. Head Start boys were taller than Free Lunch boys through age 14, and outperformed them on a six-minute jogwalk test. (Some of these differences may result from Head Start health services as well as Head Start nutrition services.)

In an evaluation of Head Start's "Healthy That's Me" curriculum demonstration project, Zamoff et al. (Urban Institute, 1975) reported a number of differences between experimental and comparison groups, based on parental reports of child health knowledge and behavior. However, the implementation

of the program was so inconsistent (e.g., 60 percent of the parents in the experimental group never received materials) that few valid conclusions about the curriculum's effect can be drawn.

The Dental Health of Head Start Children

Head Start performance standards require oral examinations of all children and treatment where necessary. Topical fluoride applications are to be made where water is not fluoridated. The need for such dental care is illustrated by several studies on the condition of Head Start children's teeth.

Pugnier and Igens (1974) reported on the examination of 1,250 children in 16 Head Start agencies in Minnesota. The average score on an Oral Hygiene Index was 1.19 indicating "urgent dental care was needed for the children to prevent tooth loss." (p. 280) Forty-three percent of the children were found to have untreated decayed teeth.

Murphy (1974) examined 557 Head Start children and 300 Head Start parents in Mobile, Alabama, Gulfport, Mississippi, and New Orleans, Louisiana. Children in Mobile, where water was fluoridated, had fewer decayed or filled teeth than children in other cities. The parents of these same children suffered from considerably more decayed teeth. Depending upon their ages, parents had an average of 16.3 to 30 teeth which were decayed, filled or missing.

Barton (1975) studied the oral health of 908 Indiana Head Start children in 1971-1973. These children were in worse shape than those in Minnesota but similar to those in Mississippi and Louisiana. Differences were found between children living in fluoridated and nonfluoridated areas. Children in cities with fluoridated water had an average of 5.44 carious surfaces per child while those in areas without fluoridation had 8.08 carious surfaces per child. In 1972-73, Head Start provided transportation to the dentist for 499 of the children studied. Of these, 354 needed treatment, and 272, or 71 percent received complete restorative services. The prior year when parents had provided transportation, 47 percent had received treatment.

The 1981-82 PIR Survey (Maxima, 1983) reported that 78 percent of Head Start children received dental exams. Of these, 41 percent were identified as needing dental treatment, and of these, 93 percent began that treatment prior to the close of the operating year.

Health Impacts on Handicapped Children

Head Start has a special mandate to assist handicapped children by including ten percent handicapped children in the overall enrollment and mainstreaming these children into regular activities. The 1981-82 PIR Survey found 11 percent of the children enrolled in Head Start to be classified as handicapped (Informatics, 1983).

The 1977 study by Applied Management Sciences (AMS) examined 59 Head Start programs to determine how well they were fulfilling this requirement.

The Head Start programs were compared to non-Head Start programs that were providing services to handicapped preschoolers in the same communities. The AMS researchers found 90 percent of the Head Start centers to be well equipped for the handicapped children. However, 40 percent of the children did not have individualized service plans as recommended by the Administration for Children, Youth and Families and only 20 percent of the teachers had early childhood or special education training.

The investigation criticized the programs for having identified 60 percent of the handicapped children through the normal enrollment procedure rather than through a special recruiting effort designed to identify eligible handicapped children in the community. These results are consistent with those reported by the Service Delivery Assessment report (HEW, 1977); i.e., most handicapped Head Start Children had been identified during enrollment.

These findings are contradicted to some extent by the programs reporting their recruitment activities in the 1981-82 Handicapped Services Survey of Head Start programs. In that report, 91 percent of the programs said they took a variety of steps to enroll and serve severely handicapped children. Coordination with other agencies was reported by 80 percent of the programs and 62 percent reported special outreach and recruitment procedures aimed at the severely handicapped. Twenty-nine percent had instituted orientation sessions for local diagnosticians and 21 percent had changed their recruitment and enrollment criteria. Only six percent reported making no efforts to serve these children (Informatics, 1983).

The Service Delivery Assessment (HEW, 1977) found that services to handicapped children were provided primarily to children with handicaps such as speech impediments, vision and hearing problems, and chronic illnesses. Except in two (of 29) sites, the investigators stated they "observed almost no severely physically handicapped children" (p. 40).

The AMS studies (1978A, 1978B) found the following levels of severity of handicapping conditions in the two cohorts they studied.

Severity of Handicapping Condition, Head Start

Severity	Year I 269 Children	Year II 400 Children
Mild	22.7%	41.8%
Moderate	41.3%	38.8%
Severe	27.1%	16.1%
Profound	2.6%	3.3%
Other	6.3%	---
	100.0%	100.0%

The Head Start Survey of Handicapped Services in 1981-82 found 32.4 percent of the handicapped children in Head Start to require "little or some special education or related services"; 51 percent to require "a fair amount" and 17 percent require an "almost constant" amount of these services (Informatics, 1983).

Thus, though Head Start appears to be serving a number of severely and profoundly handicapped children, the majority are classified as mildly to moderately handicapped.

Summary

Clearly, many children come to Head Start with health problems. High percentages receive medical screening and of those needing treatment, most receive it.

Migrant programs are not as successful at screening and treating children's medical needs or immunizing them as other Head Start programs--a fact which is as likely to reflect the transient nature of this population as the efforts of the program. Though few health impact studies are available, the ones that exist generally find Head Start children improve in hemoglobin levels, motor control and physical development after receiving Head Start health services. Head Start children are more likely to be of normal height and weight than comparison children, to have fewer absences from school, and to perform better on physical tests.

Studies differ on the number of Head Start children immunized, but the PIR data appear most comprehensive, revealing about 90 percent coverage.

The dental status of Head Start children is usually poor at enrollment, but large percentages, though not all, receive screening and treatment if needed. If Head Start provides transportation the children are more likely to be treated. Further, children in migrant Head Start programs are less likely to be screened and treated for dental needs than children in regular Head Start programs.

Eleven percent of the children in Head Start are handicapped; the majority of these are mildly or moderately handicapped. Programs have not fully complied with requirements to develop individual educational plans for these children. Further, some question exists as to how aggressively programs recruit handicapped children.

Based on the results of a major Head Start health curriculum evaluation, the success of efforts to educate parents about child health is unclear.

WHAT IS THE IMPACT OF HEAD START ON FAMILIES?

Parental participation has been considered an important component of the Head Start program since its inception. Much child development research in the last decade has justified this emphasis by demonstrating that parental involvement in early childhood education benefits both the child and the parent.[17]

The Head Start Performance Standards require that parents have the opportunity to be involved as decision-makers, as participants in classrooms, as educators of their own children, and as participants in other self-planned activities. Head Start grantees must have Policy Councils composed of at least 50 percent parents of children in the program. Parents must be able to participate in the classrooms as paid employees, volunteers or observers. Parent education programs must be developed and must be responsive to parental needs. Finally, staff are required to make two home visits a year to each family to assist parents in working with their children at home. Head Start also is intended to provide a variety of social services to the families of enrolled children.

This section examines the extent to which parents participate in Head Start and the effects of the program. Twenty-three studies addressing family impacts were reviewed. The topics covered by the studies include type and amount of parent involvement, parental satisfaction with Head Start, effects on parents and effects on children of parental involvement.

Parental Involvement

To benefit from parental involvement opportunities, the opportunities must indeed exist and parents must participate. Several studies have investigated the presence and utilization of parent involvement activities. By and large, these studies report that the opportunities are available and that many parents do take advantage of them.

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[17] See Bronfenbrenner, U. A report on longitudinal evaluations of preschool programs: volume II: is early intervention effective? Washington: DHEW, 1974.

Chilman, C. Programs for disadvantaged parents: some major trends and related research. In B. Caldwell & H. Ricciuti (Eds.). Review of Child Development Research: Child Development and Social Policy. Chicago: University of Chicago Press, 1973, pp. 403-465.

Goodson, B. & Hess, R. The effects of parent training programs on child performance and behavior. In B. Brown (Ed.). Found: Long Term Gains From Early Intervention. AAAS Selected Symposia Series. Boulder, Colorado: Westview Press, 1978, pp. 37-78.

On the basis of interviews with personnel from 30 randomly selected centers, the National Head Start Parent Involvement study (Stubbs, 1980) reported that a high percentage of the programs were providing opportunities for parents to be involved. Current or former Head Start parents comprised 89 percent of the centers' policymaking councils and committees. Ninety-five percent of the programs provided funds for parent-initiated activities, most of which were Head Start-related. For example, most centers had developed lists of community resources to be used by parents. Eighty-six percent of the teachers reported that they had trained parents in activities which they could perform at home with their children. Many centers had developed special materials for parents relating to handicapped children, health, and nutrition. Seventy-seven percent of the programs used parent volunteers in the classrooms; 80 percent of the centers used parents to help prepare meals. In the centers studied, 32 percent of the employees were Head Start parents.

In 1981-82, the PIR survey reported that for every three Head Start children, slightly more than two parents provided volunteer services. Indeed, Head Start programs reported an average of 20 volunteer hours contributed per week (not necessarily all from parents, however). Further, the programs reported that 29 percent of all Head Start staff members were parents of Head Start children (Maxima, 1983).

Similarly, Kirschner Associates' (1978) assessment of the Child Development Associate (CDA) training program found that 50 of 80 project managers reported that 33 percent of their CDA trainees were parents of current or former Head Start children.

In a survey of 32 programs involving 656 children (Abt Associates, 1978), two-thirds of the parents interviewed reported helping in classrooms, with 49 percent saying that they had helped monthly. Eighty-one percent of the parents interviewed reported that someone from Head Start had visited their home and 34 percent reported four or more visits during the year. This was contrasted to reports of parents with children in other preschools, only 43 percent of whom reported staff visits to their homes. Center staff in 86 to 90 percent of the programs reported parental use of such community social services as mental health clinics, guidance clinics, work and recreation facilities, and family planning clinics. Their use of these services was reportedly the result of Head Start information and referral services. The 1977 Service Delivery Assessment Study of 467 Head Start parents reported similar results. Eighty percent of the programs serving parents provided social services including information and referral, counseling, and transportation--services which the parents felt were generally successful.

The PIR survey for 1981-1982 showed 62 percent of the families as needing some form of social service (Maxima, 1983). Of the families identified as needing services, 90 percent received them by the end of the year according to program staff. Of these, 43 percent received services directly from Head Start and 18 percent were referred to other agencies.

A 1975 report to Congress by the Comptroller General of the United States focused part of its inquiry on parental participation, specifically on the

extent to which parents volunteered in the classroom, attended center meetings, and received home visits. Across the six programs studied, most parents had volunteered for at least a few hours each year. On the average, parents volunteered 32 hours a year, but 35 percent of the parents accounted for 71 percent of the total volunteered time. Four grantees kept records on parent attendance at center meetings. Considerable variation was reported, with 46 percent of the parents attending more than 50 percent of the meetings in two programs and only 17 percent of the parents attending more than 50 percent of the meetings in the other two programs.

Parental Satisfaction

Closely related to parental involvement in programs is parental satisfaction both with Head Start in general and with specific Head Start programs. All studies reviewed for this report found parents to be highly satisfied with Head Start. The Service Delivery Assessment study of 467 Head Start parents, mentioned earlier, found nearly all parents to be greatly satisfied with their children's accomplishments, exceeding their expectations. Parents interviewed for the Abt study endorsed the program as being helpful both to their children and to themselves. Ninety-seven percent said that they would send their younger children to it.

In an evaluation of four experimental bilingual/bicultural Head Start curricula, Juarez and Associates (1982) found that mothers of the 375 children in the study "expressed highly positive attitudes toward bilingual, bicultural curriculum models, Head Start and bilingual education" (p. iii). Similarly, Dittman (1972), in a series of case studies of 20 children, concluded that "parents clearly value this opportunity for their children and care deeply about their futures."

Effects on Parents

A number of reviews (O'Keefe, 1979; Datta, 1973 and 1979; Grotberg, 1980; Hertz, 1977) have examined the effects of Head Start preschool programs on families and generally reported benefits to parents and children. Parents appear to benefit most from involvement in Head Start in terms of increased satisfaction with life, improvement of life skills, job training and employment. Fewer benefits have been found as a result of specific training in child development or participation in health education.

Midco Educational Associates (1972) investigated the effects of parent involvement in Head Start and compared centers where parental involvement was classified as high with those where it was classified as low. The study found that parents who were highly involved felt more successful, happier, and more satisfied than parents who were less involved. (However, the former parents were better educated and had higher incomes.) The general life satisfaction of the highly involved parents increased more than that of the less involved during the time their children were enrolled in Head Start. Parents from centers classified as low in parental involvement felt less control over their own lives and felt less able to influence the schools or their child's education. O'Keefe (1979) cites a number of Head Start benefits to parents

including increased social contacts, assistance in assessment of family needs and referral to services, parent education opportunities, and strengthening of parental support for their children's education.

In a study of 25 parents in a Wisconsin Head Start program, Adams (1976) reported self-perceived changes in the parents' behavior and self-concept. Parents involved in the program reported feelings of increased self-confidence, control over their own lives, and increased community participation and employment.

Lamb-Parker (1983) examined the effect of Head Start program participation on 82 mothers in New York City. She compared the mothers' psychological well being at the beginning of the year and 9 months later on a number of measures obtained by questioning the mothers. The mothers who participated most in the program had higher levels of psychological well being, lower levels of depression, anxiety and somatic complaints (as sleep disturbances). With more participation, the mothers' faith or trust in other people also increased. Mothers who participated more also scored higher on their satisfaction with life and happiness. The mothers who lived in better housing and who were less depressed participated more.

In relation to child-rearing practices, Johnson and Peevers (1979) studied the effects of Head Start on mothers' disciplinary attitudes and behaviors. At the end of the program, the mothers were stricter with their children regarding accidental breakage of items and parent-child conflict. However, they were less strict in terms of general control of the child. While parental education was found to be correlated with the mother's acceptance of "contemporary" rather than autocratic child rearing attitudes and her self-esteem, increased exposure to Head Start did not change parents' scores on scales measuring these attitudes or the mother's acceptance of a "conventional" social role for women.

Experimental Interventions

Several researchers have studied the effects on parents of experimental programs added to the regular Head Start parent involvement efforts.

Silverman (1974) compared a group of Head Start parents to non-Head Start parents in a school for children with learning and social adjustment problems. The Head Start families received more intensive social services than did the non-Head Start parents. The Head Start parents scored lower on family functioning measures at the beginning of the study, but improved more than the non-Head Start families. However, the differences were not significant.

Wohlford (1974) compared two parent training methods for work with Head Start parents in Miami. Four groups of parents were trained in a "sensitivity-discussion" method with discussion on a variety of personal topics. Four other groups participated in sessions designed to help them facilitate the language development of their children. No measures of changes in parental attitudes or behavior were made. However, attendance was best for the language development

groups, and the author claimed that six of the eight groups "appeared to sustain a high degree of relevant interest among the parent participants" (p. 243) and considered the program a success.

This report was the subject of considerable scholarly criticism in subsequent articles by researchers who felt no demonstrated effect had been shown (Wayson, 1974; Phillips, 1974).

Bissell (1971) reports on the evaluation of the pilot year of the Head Start curriculum Planned Variation Study described earlier in which four major types of curricular models were compared to "no model" control programs. The total sample included 2,647 children; 1,569 in Planned Variation, and 1,078 in regular Head Start classes. The children were tested at the beginning and end of the year, and their mothers were interviewed and tested as well.

On measures of mother-child interaction from spring to fall using the Hess and Shipman Eight-Block Sort Task," maternal verbal communication, maternal regulation, child verbal responsiveness, and child success all increased from fall to spring.... Mothers of children in model and regular Head Start classes changed about equally in their styles of verbal interaction. Children in model programs, however, had significantly greater increases in success on the sort task than children in regular classes" (p. 25).

In response to the parent interview question, "What difference has Head Start made in your own life this year?" the report claims that parents in "regular" programs answered in terms of babysitting and day care facilities, but in model classes parents were more likely to emphasize changes in the parent-child relationship and in the child's and the parent's self-development. However, the data themselves are not that clear-cut, with babysitting being an important benefit to over 12 percent of all center-based groups.

Smith (1980) compared two experimental parent education methods for teaching Head Start mothers about child-rearing. One group participated in a group discussion while the other attended lectures and films. After five months, no differences were found on measures of child-rearing attitudes or locus of control measures. Similarly, Zamoff (Urban Institute, 1973), in interviews with 368 Head Start parents, found few significant differences on a variety of health topics between parents from centers where the "Healthy, That's Me" curriculum had been used rather than other health education materials. As noted earlier, this demonstration may not have been a fair test of the curriculum.

Economic and Educational Benefits

Several studies have described economic and educational benefits to parents as a result of their involvement in regular Head Start programs. In some studies, parents have given personal testimony to document changes in their lives because of Head Start; however, systematic research measuring this effect is scarce. Some evidence is provided by the work of Adams (1976), McDonald (1980), and the Service Delivery Assessment study (HEW, 1977). Adams found that 11 of the 13 most intensely involved parents in her Wisconsin study had

moved from being "on welfare to being off welfare." Parents also reported having increased their education, and having increased opportunities for employment as a result of Head Start participation. McDonald (1980) identified four parents who cited educational improvements in their lives which they attributed to their participation in Head Start; these changes led to employment for four mothers.

The Service Delivery Assessment study (HEW, 1977A) found many parents who reported "dramatic changes in their life attributable to Head Start involvement. A number of parents who start out as volunteers become aides, cooks, teachers and even program directors . . . the many personal success stories of parents who became actively involved suggest that it is in reality an area of significant program achievement" (p. 10).

Effects on Children of Parental Involvement

An indirect, but highly important, effect of parental involvement in Head Start is the potential impact on children. Several studies in the last decade have reported benefits in academic achievement to children with involved parents. Monroe and McDonald (1981), in a follow-up study of 94 children who had attended Head Start in Georgia in the 1960's, compared them to their peers who had not attended. They also examined differences between the children whose parents had been very involved and those who were less involved. Parents of students who graduated from high school more often reported that they had participated in Head Start parent activities or served as volunteers than parents of dropouts. Almost all of the parents located at follow-up had positive comments about Head Start, mainly relating to its ability to prepare the child for success in school.

In a study of 59 children from three upper New York Head Start programs, Weld (1973) found parents' involvement in Head Start and their child's gains on several intelligence measures to be positively related. She also found attendance, a factor largely controlled by parents, to be related to residual gains on two intelligence tests. In an unusual finding, family function variables (as the mother's perception of the value of education, her provision for the child's immaturity and her support for individuality) were more closely related to the child's profit from Head Start than was family socioeconomic status. Weld states that these values are highly consistent with Head Start parent involvement goals.

Kinard (1975) studied 170 pairs of elementary school-age siblings and their parents who had been directly involved in Head Start and Follow Through. He found that the children had higher achievement test scores if their parents had been highly involved in Head Start than children whose parents were indirectly involved. Parent involvement had a greater effect on the scores of second siblings than first children. Both the amount of parent involvement and the duration of the program (attendance in Follow Through) had a significant effect on achievement scores of both siblings.

In contrast, more parental involvement did not produce differences in a program studied by Payne (1971). In this case, one group of parents of four-year-old Head Start children received weekly home visits from teachers while another group received only the normal Head Start program. No differences between the two groups were found on a battery of intelligence and achievement tests after a five-month intervention period. It should be noted, however, that this additional "involvement" was not initiated by the parent but by the program.

Increasing Parental Involvement

Over the years, Head Start programs and researchers have tried to find more effective ways of increasing parent involvement, both in terms of the number of parents involved and the intensity of each parent's participation. As a result, several strategies and structural factors have been identified as affecting involvement.

The HEW Service Delivery Assessment study (1977B) found that parents do not participate because they have younger children at home, are attending school, are working, or have no desire to participate. However, in one state, a $50-per-month stipend was offered to AFDC recipients who volunteered for over 60 hours per month. This increased the average hours of participation per parent.

In a study of bilingual/bicultural curricula, Juarez Associates found parents were most active in preschool activities when the Head Start center was located in their immediate neighborhoods. Williams (1975) found that Indian Head Start parents in the Dakota-Nebraska region preferred an initiator rather than reactor type of parent involvement opportunity in Head Start programming.

In a Huntsville, Alabama, study of parent participation in five Head Start centers, Morris (1974) found that centers with higher participation used a variety of strategies to get parents involved. These included providing refreshments, sending notes, calling parents, and providing transportation, while the centers with lower participation used only one or two of these strategies. In centers where staff valued parental involvement, participation was higher, and centers where parents favored "active" forms of parental involvement had more participation than centers favoring more passive involvement.

Summary

In summary, the parental involvement component of Head Start appears to be working well and having positive effects on families. Many and varied opportunities are provided for parents to participate as decision-makers and as volunteers. Thousands of volunteer hours are contributed by parents especially in classrooms. At the same time, not all parents contribute equally.

Social services are provided directly or through referral and high rates of utilization are reported by staff. Home visits occur for most families, but less frequently than mandated by the performance standards.

High percentages of parents report satisfaction with the program for their children. For themselves, some parents report important changes in their educational or economic status, but there have been no studies which investigated this impact in a systematic matter. More rigidly designed studies have found personal benefits to parents in terms of feelings of control over their lives, general life satisfaction, less depression and increased self-confidence. Increased parental involvement does appear to be positively related to increased achievement in children but whether it is a cause or a correlated factor is unclear.

The effectiveness of parent education in Head Start has rarely been carefully studied. Studies of experimental educational programs added to Head Start usually show no effects. Bissell's discussion of the Planned Variation study provides the best evidence that both regular and model Head Start programs have positive effects on mother-child interaction.

WHAT IS THE IMPACT OF HEAD START ON COMMUNITIES?

Head Start has the potential for affecting communities both directly and indirectly through its effects on individual residents. Head Start has an impact on the community by providing services to families, and by contributing to the local economy through employment and purchase of goods and services. It also affects communities through the actions of its staff or families working for community change as representatives of the Head Start program. It may also serve as a training ground or launching pad from which individual parents proceed to become involved in other community activities.

The major report on the impact of Head Start on communities was conducted by Kirschner Associates (1970). Changes in 58 Head Start communities were studied and compared to seven non-Head Start communities. A total of 1,496 changes related to Head Start objectives were counted in the Head Start communities, while few were found in the non-Head Start areas. The types of changes identified included greater educational emphasis on the needs of the poor and minorities; modification of health services and practices to better serve the poor; increased involvement of low-income persons in decision-making capacities; and increased employment of local people in paraprofessional work. Although the data were collected by the Kirschner researchers prior to 1970, this study is included in this review because it is the major study addressing Head Start impacts on communities.

Economic Impacts On The Community

"Head Start has been like adding a small business to the community," commented a southeastern public official interviewed for the Service Delivery Assessment study (HEW, 1977). Indeed, the economic impact can be considerable judging from the jobs created by the program. According to the Administration for Children, Youth and Families (ACYF, 1980), Head Start employed 70,000 people in 2,000 communities in 1980. Fifty-nine percent of these employees were minorities. The Service Delivery Assessment report (HEW, 1977) also identifies an economic benefit to single parents who became able to work with the provision of child care.

The contribution of jobs to the community was also noted in a study by the Economic and Youth Opportunities Agency of Greater Los Angeles (1971) which found the program to be providing jobs for 464 previously unemployed people.

Impacts on Communities' Social Services

Head Start often plays an intermediary role in linking families to services and in maximizing its own efforts, through the use of other programs. The PIR survey reported that 45 percent of the Head Start children were enrolled in the Medicaid/EPSDT program. Of these, 87 percent received medical screenings paid for through Medicaid/EPSDT funding and 80 percent of those needing treatment received it through this funding. Further, 93 percent of all Head Start programs received reimbursements from the U.S. Department of Agriculture for food costs in 1981-82 (Maxima, 1983). ACYF (1980) also found that about half the

Head Start grantees participated in CETA in 1978-79. Fifty-five percent of handicapped children in Head Start received services from other agencies or individuals. Sixteen percent of Head Start staff members were partially or fully paid by other sources.

Head Start provides social services to families directly or links them to other resources. The program serves as an information and referral source for both Head Start and non-Head Start families (HEW, 1977). ACYF (1980) reports that 75 percent of the families received such services from Head Start or another agency in 1980. In addition, the study cites the following community resources used by Head Start families.

Resource	% of Families Using Resource
Food Stamps	72%
Public Health Clinic	70%
Family Planning	45%
Welfare Department	66%
Legal Aid	23%
Housing Authority	24%
WIC	33%
State Employment Office	47%
Job Training Programs	21%

However, it is not possible to assert that Head Start produces utilization of these services without a control group of similar non-Head Start families. The 1976 study that compared Head Start and Home Start children and parents (High Scope, 1976) found the two groups very similar in their use of community resources.

The Abt Associates study of Head Start graduates and their peers (1978) included a control group to measure the extent of Head Start impacts on some community services. The investigators found 52 to 98 percent of the centers studied reported availability of community health and social services and 89 to 100 percent reported use of these services if available. Thirty-three percent of the Head Start parents interviewed said Head Start had been of "some" or "a great deal" of help in dealing with family or personal problems compared to 16 percent of parents with children in some other preschool program.

The Service Delivery Assessment study (1977) found that Head Start project personnel serve as advocates for families with other social service agencies. Fifty-five percent of the projects studied reported that they were most effective in advocating for emergency or protective services. Head Start personnel also serve as advocates on issues that affect their client families at the state and local levels. For example, they serve on advisory boards, testify in legislative hearings, or lobby for improved services (HEW, 1977). However, the extent to which an agency is willing to "rock the boat" for families often depends upon its position within the local political structure and its history.

According to Miller (1978), the institutional characteristics of a Head Start program can affect its use of community resources. She found that even Head Start programs that have a distant central administration benefit from

local administering agencies because the latter have access to community resources.

Impacts on Public Schools in the Community

There has been considerable speculation about the salutary effects which Head Start's parent involvement model may have on public schools. Indeed, this issue was the basis for former President Carter's unsuccessful proposal to transfer Head Start to the U.S. Department of Education. Only three studies explore this issue. Torczyner (1974) examined the assumption of control of a Marin County, California, Head Start program by parents, and compared the performance of the children in the program to that of children in a Head Start operated by the school system. While parental control afforded the staff increased opportunities for educational innovation, the parents were unable to maintain a viable organization over time. There were large differences in parental participation in the two centers. Fifty-eight percent of the parents in the parent-controlled center contributed volunteer classroom time and averaged 11.8 days of volunteer time per parent while 34 percent of the parents in the school-controlled center contributed an average of 3.4 days of volunteer time per parent. Though Torczyner found children from the parent-controlled center to score higher on an elementary achievement test than the children from the school-controlled center, there were major problems with sample selection and testing that could discount these differences.

In contrast, the working relationships of most Head Start programs and public schools appear to be quite compatible (Abt Associates, 1978). Though only 10 percent of the sample of 1,550 centers in this study were operated by school systems, Head Start use of school resources was considerably higher than 10 percent, as the table below demonstrates.

Head Start Center Utilization of Public School Resources
Abt Associates, 1978, p. 14

Area of Contact or Use of Public School Resources	Percent of Head Start Centers
Use of Buildings	58%
Use of Offices	25%
Administrative Personnel	58%
Teachers from School System	87%
Curriculum Supervisors	49%
School Program Coordinators	81%
Other	45%

In addition to the type of cooperative arrangement described above, there is evidence that a vertical diffusion (or "trickle-up") relationship may be found where Head Start programs and public schools co-exist.

Lewis (1971) examined the effect of Head Start on parent involvement in Title I projects in 20 school districts where Head Start programs were located. Though Title I also serves children in disadvantaged areas, it does not require

the same types of parental involvement. However, Lewis found 54 percent of the members of the Title I Policy Advisory Boards to be parents. Parents participated in staff selection and worked as paid and nonpaid volunteers. Each project had an average of 10 parent staff members. Twenty parents were interviewed and their perceptions of the level of parental involvement were quite similar to those of school personnel. Parents also felt that parental participation had increased since the establishment of the Head Start programs.

The Service Delivery Assessment report also found that participation by parents in Head Start leads them to introduce Head Start concepts into the public school system. The author particularly noted "increased parent interest and involvement in school system decision processes and the use of teacher aides in the classroom" (p. 66, HEW, 1977).

Impact on Community Through Individual Parental Involvement

In addition to activities in the public schools, some studies have found parents to become more active in other community activities and leadership roles following their Head Start experience. The Service Delivery Assessment report states that Head Start involvement has helped foster parental confidence and community activism.

Stubbs (1980) found that Head Start programs used a variety of techniques to encourage parents to become involved in other community activities. The majority of the programs studied encouraged parents to discuss the proceedings of any public meetings with staff and other parents, provided training to parents on how they can participate in organizations, and encouraged parents to join community organizations.

However, in a 1972 study of 20 Head Start centers, Midco Educational Associates found that parents who had high involvement in Head Start had previously been highly involved in their communities. While their children were in Head Start their community involvement decreased, but it rose again after the child left the program. Head Start had little effect on parents who had low participation in Head Start or the community. Midco's work questions Head Start's causal role in involving parents in their communities. At the same time, one cannot ignore the considerable anecdotal evidence of community involvement of parents as a result of Head Start participation which has accumulated since 1970.

Summary

Clearly Head Start has an economic impact on communities by providing jobs and services to the community. It also encourages the coordination of community social services but whether it increases their utilization is unclear.

Head Start programs apparently do have positive influences on public schools, primarily by increasing parental involvement in their children's schools. There is some evidence that Head Start increases parental involvement in the community, but the only direct inquiry of this impact indicates that parents most involved in Head Start were involved in their communities prior to their Head Start involvement.

CONCLUSION

The studies reviewed for this report provide many and often mixed findings on the impact of Head Start on children, families and communities. While the bulk of the studies focused on cognitive effects, researchers also investigated impacts on social, emotional, and physical development of children as well as effects on their parents and the larger communities.

These studies point to positive effects of Head Start on the social competence of children. While academic and intellectual gains are produced during the Head Start program year, these tend to diminish with the passage of time. There is evidence, however, that these children do perform better than their disadvantaged peers on such global measures of school success as passing each grade, staying in regular school tracks, staying in school and graduating from high school.

This and other major conclusions from this review follow in brief form:

Cognitive Development

- Head Start has significant short-term positive effects on measures of intelligence. (pp. 18-20)
- Head Start children continue to score below national middle-class test norms on cognitive measures. (pp. 18, 24, 25, 29)
- Head Start children have more stable test scores under different testing conditions than non-Head Starters. (pp. 19-20)
- Head Starters sometimes outperform their disadvantaged peers into elementary school, though some studies show no differences. (pp. 24-27)
- Head Start children sometimes maintain superiority on achievement test scores into the later school years. About half the relevant studies show Head Start children maintaining achievement test differences into later school years, while the remainder of the studies show these differences are not maintained. (pp. 27-30)
- Head Start children usually perform better than non-Head Starters on measures of school success (retention in grade, special education assignment, dropping out of school). (pp. 27-30)
- No single Head Start curriculum appears to be superior to other curricula on cognitive measures. (pp. 20-23)
- It is unclear whether the socioeconomic mix and racial cultural emphasis of programs affect cognitive performance of Head Start children. One study shows positive effects from more equal mixing, the other shows no effect. (p. 23)

- Experimental, time-limited interventions for particular cognitive skills training almost always provide positive effects. (pp. 31-33)

- Head Start children who receive special perceptual training perform better than those who do not. Head Start children display more reflective cognitive styles than non-Head Start children. (pp. 33-34)

- Head Start usually improves language development, especially for bilingual children. Experimental language interventions are usually effective in enhancing language performance. (pp. 34-36)

- Head Start improves cognitive skills for some types of handicapped children. Experimental tutoring has produced large gains for children with low achievement levels. (pp. 37-38)

Emotional and Social Development

- Self-esteem apparently is at ceiling levels in the preschool years. The effects of Head Start on it are unclear and difficult to measure. (pp. 41, 44-48)

- Self-esteem does not correlate reliably with achievement in Head Start or reliably predict later school achievement. (pp. 41-42)

- Curiosity and exploratory behavior may be affected by the curriculum and program duration. There is some evidence that a more supportive program may enhance curiosity and a full-day program may increase children's motivation to interact effectively with their environments. (pp. 42-43)

- Head Start children score higher on some measures of task orientation than controls but not on other measures. Task orientation has been found to correlate with cognitive test scores in Head Start children. (pp. 43-44)

- Achievement motivation in Head Start children does not appear to be increased by experimental interventions. (p. 44)

- Head Start children have been found to score lower than middle-class children on measures of locus of control and Head Start has not been found to increase scores on these measures significantly. (p. 44)

- Head Start children are usually rated as performing as well as the general school population in the elementary school years in social development. They have been found to be more aggressive and more attention seeking, but also more sociable and assertive than their disadvantaged peers. (pp. 45-47)

- Some studies show experimental curricula to have positive effects on Head Starters' social development. (p. 46)

- Head Starters appear to be affected by the socioeconomic mix of their classes. As the mix approaches equality the children interact more with teachers and less with each other. (pp. 46-47)

- The self-esteem of Head Start children declines once they enter school. However, children from some types of Head Start curricula maintain superiority on social participation through the second grade. (pp. 47-48)

- Most handicapped children are socially integrated into Head Start programs. Head Start enhances self-help and social skills for some types of handicapped children, but not for others. (p. 48)

Health

- Head Start provides a range of health services to a population badly in need of them. Health screening, immunizations, and needed treatment are provided for most, but not all children. (pp. 50-52)

- Head Start children improve in hemoglobin levels, motor control and physical development over the program year. (pp. 52-53)

- Because of the nutritional services, Head Start children are more likely to be of normal height and weight than comparison children. They also have fewer school absences and perform better on physical tests. (p. 53)

- The evaluation of a major Head Start health curriculum did not provide sufficient evidence to determine its effectiveness. (p. 54)

- Head Start children generally have teeth in poor condition at entry, but high percentages receive screening and needed treatment. Migrant children are not screened and treated to the extent that other Head Start children are. (p. 54)

- Eleven percent of the children in Head Start are handicapped; the majority have mild or moderate handicaps. Programs have not fully complied with requirements to develop individual plans for the children. Some question exists as to how actively they are recruited. (pp. 54-56)

Families

- Head Start programs provide many opportunities for parental involvement. (pp. 57-59)

- Large numbers of parents participate in these programs, but a core of parents provide most of the volunteer hours. (pp. 57-59)

- Mandated social services are provided but staff visits to homes fall below recommended levels. (p. 58)

- Parents show high levels of satisfaction with Head Start. (p. 59)

- Parents report more general life satisfaction and increased self-confidence as a result of Head Start involvement. These benefits generally increased as involvement increased. (pp. 59-60)

- Educational and economic benefits are reported by some families. (pp. 61-62)

- Results on the benefits of parental education programs are inconclusive. (pp. 60-61)

- Child achievement is positively related to parental involvement but the presence of a causal relationship is unclear. (pp. 62-63)

- A variety of successful strategies have been developed to increase parental involvement in Head Start. (p. 63)

Communities

- Head Start benefits communities through providing jobs and services. (p. 65)

- Head Start programs assist families in linking up with social services provided in the community. (pp. 65-67)

- Head Start probably increases parental involvement in public schools. (pp. 67-68)

- The extent to which Head Start increases parental involvement in the community is unclear. (p. 68)

Appendix

Development of the Bibliography

The process of identifying the universe of studies for the Head Start Evaluation, Synthesis and Utilization Project began with the bibliography assembled in the 1975 literature review conducted by The George Washington University. This bibliography included approximately 700 references. The materials collected during this study and additional materials held by ACYF were loaned to CSR, Incorporated. An additional 700 references were identified through on-line searches of computerized data banks and through manual searches of selected libraries. The primary data source for references has been the ERIC system. However, other databases were carefully searched, including:

- AGRICOLA, (Agricultural On-Line Access), Dept. of Agriculture Database;
- BBIP, Books-In-Print Database;
- BOOK, Books Information Database;
- DISS, Dissertation Abstracts;
- ECER, Exceptional Child Database;
- GPOM, Monthly Catalog of U.S. Government Publications;
- IHSP, State Publications Index;
- NCMH, Mental Health Clearinghouse;
- NCFR, Family Resources Database;
- NRIC, National Rehabilitation Information Clearinghouse;
- PSYC, Psychological Abstracts;
- SMIE, Smithsonian Science Information Exchange;
- SSCI, Social Science Citation Index;
- ULRI, Ulrich's Index of Periodicals;
- USBE, Universal Serials and Book Exchange;
- MESH, Medical Subject Headings - Medline; and
- SPIF, School Practices Information File.

A manual search of the following libraries was conducted:

- Department of Health and Human Services;
- Department of Labor; and
- Library of Congress.

As Head Start resources were collected, the bibliographies included in these works were reviewed for additional references. In addition, two thousand (2,000) Head Start grantees were contacted by letter to request information on reports, papers, and other publications which included Head Start evaluation data. This effort resulted in the location of otherwise fugitive materials which were incorporated into the collection.

Each unique reference was screened by project staff for relevance to the Head Start Evaluation, Synthesis and Utilization Project. All documents that reported Head Start research findings, Head Start legislation and policy statements, or materials directly related to Head Start research such as annotated bibliographies were included in the database.

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